Chee, Wah Keat (2009) Examining the consulting services delivery at Microsoft Consulting Services (MCS) Singapore and recommendations for improvement. [Dissertation (University of Nottingham only)] (Unpublished)

Examining the consulting services delivery at Microsoft Consulting Services (MCS) Singapore and recommendations for improvement

By

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November 2008

A Management project presented in part consideration for the degree of Master of Business Administration.

ACKNOWLEDGEMENT

My sincere appreciation is extended to my supervisor, Dr. Ramakrishnan Ramanathan for his patience and guidance in helping me articulate this management project and making my MBA experience all the more fulfilling.

Allison, for providing me love and inspiration to complete the tasks at hand.

To my parents, I thank you for your unwavering support and encouragement in my past and present endeavors' and for the future ones I have yet to undertake.

To my colleagues at Microsoft Singapore for providing me the management support, references, and invaluable discussions.

ABSTRACT

This is an internal management project study on current consulting services delivery at Microsoft Consulting Services (MCS) Singapore. The contents of this study are for the internal use of Microsoft Singapore and Nottingham University Business School. The contents of this management project are not to be released for publishing.

Consulting industry remains as a profession shrouded in great deal of mystery (Flemming & Larry, 2005), hidden behind private partnership, client confidentiality and proprietary methods. While many clients continue to spend millions of dollars a year on consulting services, it is ironic to think that the consulting services has never established a standards approach in profession unlike the accounting, engineering or legal professions. What is interesting is that although consulting is a high stake engagement that influences strategic directions of the client, the approach, methodology, intervention approach and analytical methods used by the consulting firms are often proprietary and rest with the core value of the consulting firms. This also is true for the IT consulting industry. Although traditionally IT consulting industry was originated from specialized domain of technical areas, it has since evolved into strategic IT consulting that prompted a shift in consulting engagement business models that fuses both technical and strategic thinking of the IT firm. Technological solution that has once public domain knowledge to certain extend is now an incomplete solution without strategic thinking. This has prompted IT firms to find ways to differentiate themselves in order to undertake IT strategy consulting engagements.

Microsoft Consulting Services Singapore (MCS) is one such firm. It seeks to differentiate itself from competitive IT firms. While it is not possible to have an external view and compare consulting practices against competitive IT firms, it is possible to examine internal processes to see what can be done to remain competitive. This research attempts to undertake a study in examining MCS consulting services components from a holistic approach to analyse what can be improved in its delivery approach to clients from an operational management point of view. This research takes a analytical view of its service management models as a whole, its services blueprint for delivering consulting engagements, its knowledge creation and management and customer satisfaction. Primary data supporting these finds were collected from focus group discussions and surveys. Secondary data were obtained from approved internal Microsoft database and industrial reports. A conclusion is then made at the end of this research to reflect the findings, gaps and recommendations.

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1 INTRODUCTION

All consulting services be it strategy, organization, marketing, human resources or operational presumes some degree of knowledge and use of knowledge and use of Information Technology in various function of business. It is a tool in many major aspects of management consulting, playing key roles in scenario analysis in strategy planning, business intelligence in marketing and assembly line systems in operational consulting.

Between the year 1996 and 2000 alone, more than USD1.7 trillion was spent in US alone on IT and as of 2005 IT spending alone in the US accounts (Richard & Larry, 2005) for more than ½ of all companies' capital spending. Between the years of 1996 till 2008, the IT consulting industry has undergone major ups and downs in starting with explosive growth, Internet frenzy, Y2K related investments to the dot.com bubble burst and slow growth leading into stagnation of growth for most IT firms between 2001 - 2002. What seemed to be a resurgence in growth in the following years seemed be halted by the recent financial crisis that started in mid 2007 and into 2008 overshadows the outlook for the IT consulting industry although industry analyst remains optimistic (Kennedy Information, Inc, 2008). However given the bleak forecast, Asia Pacific market for IT consulting is expected to grow year to year 5% for the year 2006 – 2010.

Economic climate downturn aside, what seems clear to analysts and IT firms alike is the trend of customers increasingly seeking multi-sourcing opportunities, engagement flexibility and demanding value in IT consulting engagements. Customers are actively seeking and demanding IT firms to show more ROI justification in terms of business returns apart from technological enhancement alone. It is apparent to IT firms that traditional way of selling technology products and bundled solutions do not always apply in every engagement deal. This means in order for IT firms to maintain relevance in the IT market, differentiation and value proposition becomes even more important than ever before. Microsoft Consulting Services (MCS) being Microsoft's consulting arm, is increasingly aware of the need to move away from its traditional offering of technology consulting which was previously targeted at offering IT solutions for a specific need to IT strategy consulting targeting at the strategic decision making level in order to differentiate from competing IT firms. A challenge for MCS is that customers normally raise the question of:

"Why would the organization have a vendor (Microsoft) provide I.T. strategy, when I can get generic I.T. strategy from Gartner, McKinsey, or PriceWaterhouse Coopers?"

The perception of Microsoft's customer is that MCS has never been an IT strategy consulting firm but technology advisory services providing consulting based on Microsoft's technology platform. In order to move to IT strategy consulting, MCS need to first understand and consume the customer's I.T. strategy, then advice the customer how Microsoft will enable and improve that strategy. As most of Microsoft's customers have already made investments in Microsoft's software, understanding of customer's strategy will help MCS help customers to leverage their multi-million dollar investments and aligning it to their strategy. From field experience in engaging customers, MCS realised that that:

- Most clients do not always have a strategy that its IT department can understand.
- The client's IT department has not been forthcoming in letting MCS engage to the business side of the client.

MCS needs to offers a capability and deeper understanding of the client's business and IT plans and ensuring that the Microsoft consulting offerings is specifically aligned to the client's investment objectives.

Microsoft's strategic offerings have been traditionally focused on delivering value to the customer's IT organization, since this is where most of its consultants have the greatest access and influence. This IT-centric relationship creates both challenges and opportunities for Microsoft to create customer value in strategic engagements. It is a double edge sword that enforces the notion of MCS depth of Microsoft expertise and the perception of not being able to understand business.

Many Microsoft consultants that practice architecture or technology consulting in client engagements focus on IT Solutions for tactical projects, as shown in the left hand side of the diagram below (MIT Sloan School of Management, 2005).

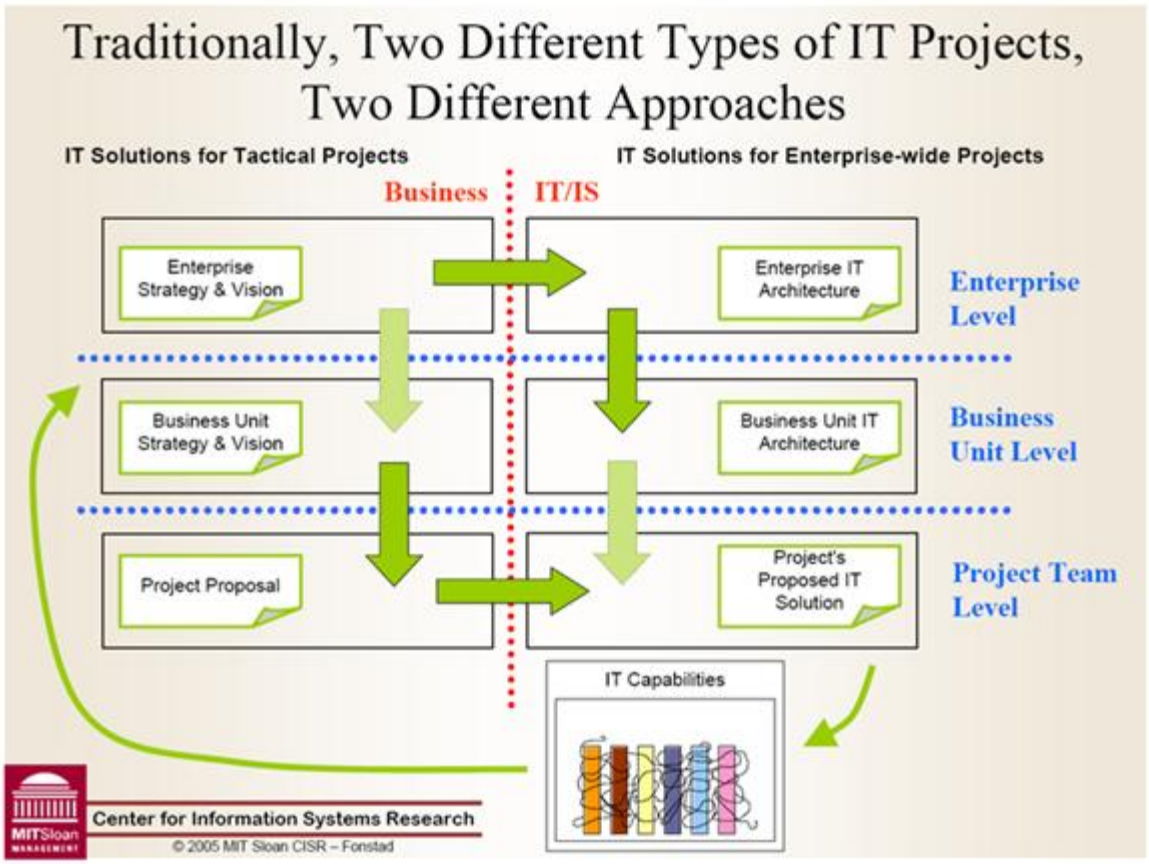


Figure 1 CISR MIT view on different IT project type

There is a need to move away from engaging in tactical projects to more enterprise wide view of the client's environment. Engaging at this level would certainly mean engaging the client's executives and decision makers instead of middle management. This requires a shift in mindset, operations and approach in its consulting delivery framework. It is a shift from providing Microsoft specific technology consulting to becoming a trusted advisor to the client's Chief Information Officer instead of being constantly seen as a leader in Microsoft related products. Essentially MCS is looking to change its business model.

This management project aims to examine MCS's overall engagement model on how it currently delivers consulting services to customers and to see if any improvements can be done taking into considerations of what MCS is trying to achieve in its new business model. This takes into consideration service management, engagement delivery model, intellectual property management, customer satisfaction and the competitive nature of the market environment MCS operates in. Primary data supporting these finds were collected from focus group discussions and surveys. These data are based on focus group discussions from MCS management, MCS delivery team and client satisfaction data. Secondary data were obtained from approved internal Microsoft database and industrial reports.

1.1 Scope and structure of discussion

Abstract gives an overall introduction to the research at hand and gives an initial overview.

Chapter 1 Introduction discusses the overview of what are the management issues at hand and attempts the frame the problem that the research is attempting to undertake.

Chapter 2 Literature review discusses the literature review of the research that has been undertaken.

Chapter 3 Microsoft Consulting Services introduces Microsoft Consulting Services Singapore organization structure, its market focus, engagement delivery model, issues and challenges moving forward.

Chapter 4 Methodology of research attempts to put forward a conceptual framework that will be used to map all aspects of this research in terms of methodology used, data collected, analysis that will be undertaken, objectives of the research and conclusions that will be presented. This chapter also discusses the various methodology of research that will be done and analysis expected.

Chapter 5 Analysis discusses the analysis that was done using the various methodology elaborated in Chapter 4Methodology of research.

Chapter 6 Conclusion discusses the conclusions, overview of the results and further recommended research.

Chapter 7 and 8 contains the sample invitation surveys and letters for data collection.

Chapter 9 Bibliography contains all the bibliography for the management project research.

Chapters (Supporting Diagrams – Conceptual Framework), (Supporting Diagrams – Service Blueprint (Current)), (Supporting Diagram – Service Blueprint (Proposed)), are supporting diagrams attached at the back of this management project.

Section Primary data: Survey are data from surveys and is attached to the end of this management project.

2 LITERATURE REVIEW

This chapter attempts to discuss on literature reviews that was provided support, methodology and rationale towards the research approach.

2.1 A short history on IT consulting

Over the last 50 years, the growth of IT consulting has been closely paralleled the growth of management as a procession. Through the period of transition from Industrial Economy to the Information Economy, internal operations have turned from manual intensive labor to automated computer based work. The development of the accounting field with financial auditing requirements spearheaded by professional accounting firms helped developed accounting principles application to reporting functions. This was greatly facilitated by the development of the computer technology. At this point the IT consulting business was born with most of the function supporting the financial function. (Richard & Larry, 2005) Identifies IT consulting growth as occurring over three broad eras leading to the present day:

- 1960 – 1980 – The data processing era (DP era)
- 1975 – 2000 – the Micro Era
- 1995 – 2010 – the network era

The DP era centered on the mainframe and batch processing that was performed and maintained by centralized IT organization within any given company. The micro era was initiated by microcomputers and the personal computers that driven decentralization initiatives by enterprises. The present network era involves rapid communication and transaction that extend beyond the corporation to include entire value chains and value networks. These evolutions from DP, Micro to network era are the result in a long and gradual evolution of organizations as IT has been integrated into the structure and decision making process of the companies. The DP era suited the M-Form (multi-level) functional hierarchy and industrial age management model. In Micro era, workers are able to obtain, analyze and manipulate content and information as the micro era enables dissemination of information and moves the decision making closer to the knowledge workers. The current network era involves integration, greater analytical processing power, data mining; sharing of content, instant feedback and the list goes on. Today's executive (the CIO in particular) faces challenges of ensuring IT architecture supports a platform of information sharing with partners, suppliers, strategic alliances and even outsourcers. The CIO would need to ensure formal management yet informal networks are formed on demand in the interest of business enablement.

This now network era provided fertile grounds for IT consulting firms. This enabled IT to develop into an effective way to communicate with customers, partners and suppliers. Key decision-making responsibility moved from IT professionals to senior line managers making key strategic IT decisions strategic in nature. CIOs have evolved from mainly IT technical experts to sitting on the executive broad participating in high level dialogue about strategic directions of the company. According to (Gartner, 2008) ,

"IT consulting services are advisory services that help clients assess different technology strategies and, in so doing, align their technology strategies with their business or process strategies. These services support customers' IT initiatives by providing strategic, architectural, operational and implementation planning. Strategic planning includes advisory services that help clients assess their IT needs and formulate system implementation plans....."

2.2 Advisory framework for delivery

An evolving IT firm would also need to consider about moving from technical based advisory to strategic IT advisory. In enabling an IT firm to move from a traditional technical to strategic advisory requires a change in mindset, operational processes, intellectual property management and customer satisfaction. Fundamentally it is about positioning products and services to clients. Marketing literature would argue that the four factor classification or 4Ps (Jerome, 1996) of marketing mix namely product, price, promotion and place when properly executed are designed to deliver benefits to clients. (Robert L. , 1990) argued that the 4Ps are correspondent to a customer's 4Cs namely:

Table 1 4Cs with 4Ps

4Ps	4Cs
Product	Customer needs and wants
Price	Cost to the customer
Place	Convenience
Promotion	Communication

Thus, winning companies will be those who can meet the customer's needs economically and conveniently and with effective communication. If the marketing mix activities carried out by the company meets the needs of the customers, it will lead to more favourable response to the product offering. The favourable response by the customers will thus improve the value of the brand equity in the long run. (Yoo & N., 2000) have developed a conceptual

framework to explain the linkage between marketing mix activities and brand equity. However (Scholtes, 1998) argued that rather than simply describing products and services through effective positioning and communication, it is best to identify the benefit or capability acquired as the result of an interaction. In evaluating interaction of service user's needs and value added service, (Normann, 1991) developed a model that requires answering four critical questions of a service intent to a customer. These critical questions frame the principles and values of the elements of service (shown below):

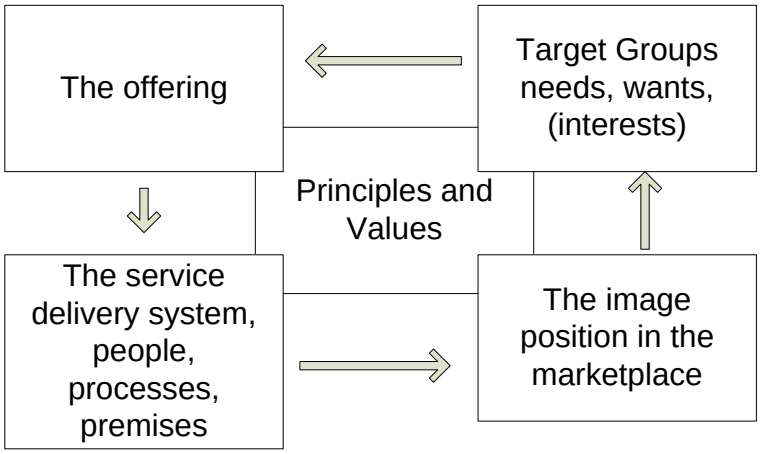


Figure 2 Normann critical questions

- Who is the service for? The current client the firm is engaging.
- What is the offering? What outcomes might the client expects from engaging the firm? What sort of experience do the firm wants to achieve for the client? Is this static or changing?
- What is the service delivery system? This is a combination of: the people, the premises, materials, processes, media and equipment. Are these appropriate for client?
- What is the desired 'image' of the service? What position does the firm wish the service to hold in the eyes of the client?

This results into the service management model depicted on section 2.3 Service Management Model which describes the MCS's delivery model as a whole.

2.3 Service Management Model

The model is based on the principles and values that underpin the delivery of services. This model ties together 5 important aspects of the services management system as shown below:

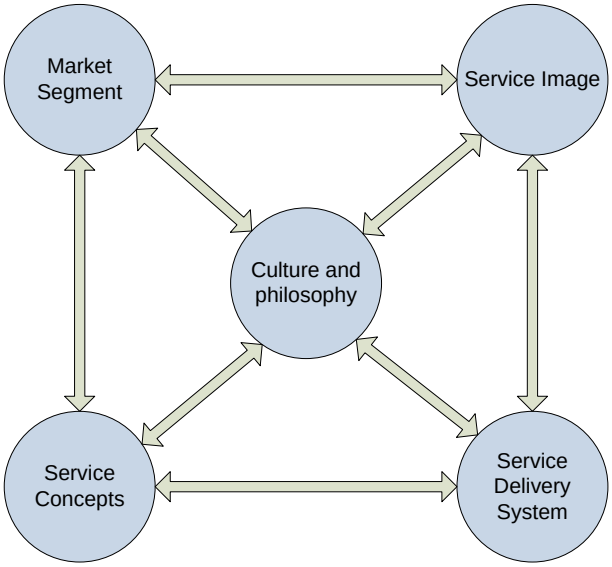


Figure 3 The Service Management System based on (Normann, 1991)

2.3.1 Culture and philosophy

Culture and philosophy is central to service management system. This aspect describes the overall Microsoft Consulting Services objectives, goals, values and principles guiding MCS. Also called the organization's service vision, this aspects looks at how MCS views current engagement approach and where does the MCS management wants to be in the future in terms of depth and breadth of relationship to the clients. Also addressed in this aspect is how does MCS views its relationship with clients with the aim of giving consulting services to the client's organization from a strategy and value standpoint.

2.3.2 Service image

This aspect describes how currently MCS is being seen in comparison with industry competitors. As MCS is a consulting service of Microsoft Services division, it is often compared to other IT consulting firms in the industry. This aspect discuss how does MCS clients perceive Microsoft as a whole from an IT solution provider view.

2.3.3 Market segment

This section highlights current business challenges, current specialization and possible opportunities that relates to MCS. The MCS management also compared MCS to other competing IT consulting firms in terms of capability mix matrix to assess competency. Assessing the competitors also gave an insight as to where MCS can potentially compete in. Market segment also describes the current type of clients of for whom the services management system was designed. This can be:

- Customer oriented – wide range of services to a limited range of customers, using a customer-centred database and developing new offerings to existing customers.

- Service oriented – focused, limited menu of services to a wide range of customers, usually through a specialization in a narrow range of service
- Customer and service oriented – providing a limited range of services to a highly targeted set of customers

As there are no data for comparison between competing consulting firms in Singapore, MCS management do not have any structured methodology or process on the analysis of a competing IT consulting firm. Most rely on industrial reports and journals for information with regards to the state of competition on an industrial level. A scan of internal references of MCS managers reading literature do not contain direct information with regard to IT consulting industry but rather the IT industry as a whole. Managers would then develop a perception and rely on a mental map of the competitive landscape, and asses MCS capabilities against the competing IT firms.

To use (Porter, 1991) recommendation of competitive analysis, managers would need significant amount of time to analyze each competitor to develop a competitive positioning strategy. Hence managers normally simplify their competitive environment through use of mental model where competitors exhibiting similar behaviour are grouped (Porac & Thomas, 1990) together. Then using categorization process (Bruner, 1957), managers would then make decision by drawing inference about competitors according to the category they belong to. Framework based perception in the context of a dynamic competition was developed by (R.G.M. & J.J., 2004), managers in competing firms would form perception via the scanning of the competitor and make decision (reactions) based on information available to them.

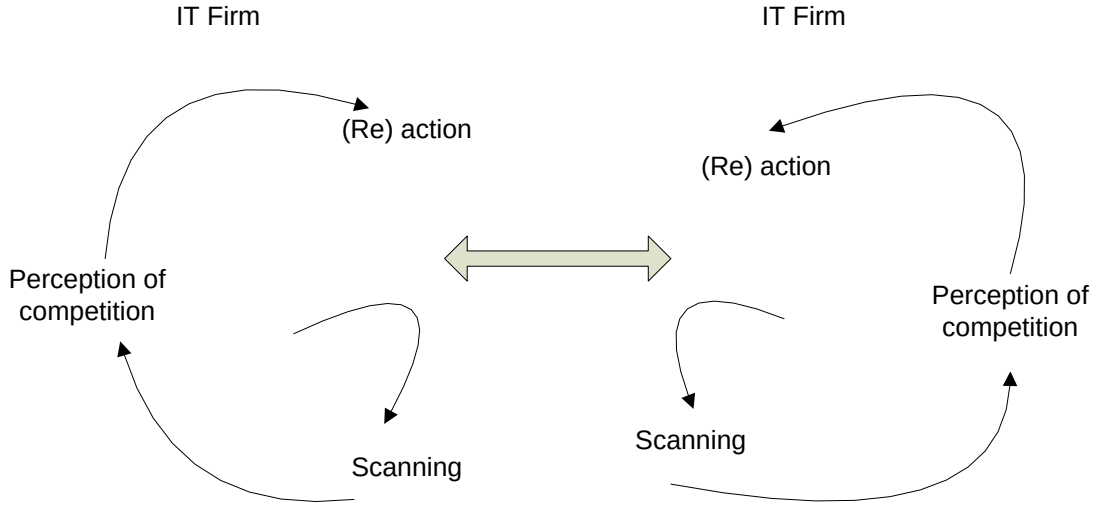


Figure 4 Framework of competitive perception

(Clark & D.B., 1999) suggests that managers use several stages when changes in the market occur that effect their current competitor category. These stages range from forming

initial representation of the competition, classifying them according to some category that the manager's firm can identify with and eventually storing them in mental memory. Typical classification that managers often use comparisons such as size, attributes, product style, market positioning, geographical scope and firm success.

In the case of MCS, managers often compare and perceive how MCS would perform against competitive IT firms using the same mental representation as shown in the (R.G.M. & J.J., 2004) framework. MCS management often scan, form perception of the competition and make decision based on rational information given to them.MCS management currently uses a capability matrix to stack up against the top five competing IT consulting (in Asia Pacific) firm's capability matrix.MCS management considers mapping each competing IT firm's capability as a more relevant gauge to asses market position. One such capability matrix is the IT Consulting Capability Matrix from (Kennedy Information, Inc, 2008).

In focus group discussion, MCS management derived, identified and structured an IT capability map that each MCS management uses to assess the capability of a competing IT firm.

Table 2 IT consulting capability mix

IT Consulting Capability Matrix	Description
Enterprise IT Strategy/Architecture	Capability and strength on overall IT strategy that ensures technology architecture aligns with strategy
Systems/IT Strategy/Architecture	Capability and strength on systems architecture
ERP/Finance	Traditional, or core, ERP activities and the associated back-office financial functions.
HR	Work with HR management systems such as payroll and benefits administration including extensions from traditional ERP application sets.
CRM	Traditional CRM system implementation work and the ERP extensions associated therewith.
Supply Chain	Supply Chain Management preparation and installation work as well as ERP-related extensions into that environment.
Industry Specific Functions	Specialization and knowledge on specific industry
SOA Enterprise Application Integration	Work at the application integration layer as well as SOA-related activity, of which EAI cleansing is so integral to moving forward on

	SOA implementations, as well as work with middleware products.
Application Development	Custom application development services and other ancillary items related to custom systems work in support of same
Business Intelligence	Activities revolving around the building and implementation of business intelligence systems as well as the dwindling amount of database customization work that primarily supports BI development efforts.
Enterprise Information Integration	Work rationalizing and organizing structured and unstructured data sets for better manipulation. It represents a small but mission-critical service component.
Infrastructure Services	Hardware, storage, network, and open source services.
Database services	Database and storage capability
Information Security and Governance	Access control, disaster recovery/continuity, application security, record/document retention, SOX, COBIT and policies and procedures work.
Senior Consultants	Capable senior personnel to deliver IT consulting engagements
Repeatable solutions	Repeatable solutions that can be used to reduce engagement overheads and resources
Intellectual Properties	Intellectual property or knowledge management capability strength to aid IT consulting delivery
Strategic Alliances	Strategic alliances with other IT firms on specific technology or services
Partner Ecosystem	Strategic partnering with vendors
Offshore	Outsourcing capability to other countries that are both politically stable and lower cost.
Onshore	Capability to fulfil services by outsourcing to nearest low cost neighbouring country
Nearshore	Also called domestic outsourcing. Capability of obtaining services from outside the firm but within country

2.3.4 Service concept

This aspect addresses the benefits offered by the service. Service concepts embody a complex set of values – physical, psychological and emotional. In other words, the service concept describes the way the organization would like its employees and stakeholders to perceive its services (Heskett, 1986). However, in the case of MCS, the value proposition and overall approach to how IT strategic engagements are view by MCS are discussed. Hence, the structural elements of the service concept in this case are the strategic, program management and enterprise architecture approach of MCS towards undertaking an IT strategic engagement.

2.3.5 The service delivery system

Service delivery systems are ways in which the service concept and service package are provided to the client. It is the process in which the client participate and through which the product is created and delivered to clients, including personnel, clients, technology and physical support. Service delivery system is dictated by and defined by the service concept. Key aspects to consider are the core services, the supporting goods and services, the facilitating goods and services, role of staff and the entertainment provided.
Service package is the embodiment of the service concept and includes both physical and tangible elements as the service offering and its intellectual/intangible elements. According to (Sasser & Wyckoff, 1978) service package includes:

- Physical items – the physical goods that are changing hands, if any (facilitating goods in services). in the case of MCS, this would be the engagement report.
- Sensual benefits – aspects that can be experienced through the sensory system (explicit intangibles). In the case of MCS, this would be satisfaction of consulting services rendered.
- Psychological benefits – emotional or other aspects (implicit intangibles)

However in MCS, the concern is integrating an IT strategic consulting services offering into the already existing traditional offering and support services without adversely affecting deliverable quality.

2.4 Service Blueprint

An order management cycle (OMC) evaluation as described by (Sharpiro, Rangan, & Sviokla, 1992) is essential as every customer experience is determined by the company's OMC. It involves management to look internally and run through every aspect and touch points a customer would have with its service organization and identify gaps and service outages that may occur along the way. One such OMC evaluation tool can be found in a service blueprinting (Shostack, 1984). It can identify all the points where a client is in contact

with MCS and thus where contact points where things are likely to go wrong. It can be used to identify areas for process improvement. Using the service blueprint, a flowchart is first draw on how a client interacts with MCS. Service blueprint was chosen to map out MCS engagement process for its applicability to map out interaction points between the service provider and customer and show gaps at the same time. There are three elements included in the service blueprint that makes it different from flowchart used in depicting manufacturing. They are:

- Line of visibility
- Line of internal interaction
- Failure points

The following 4 steps needed to be undertaken to perform a service blueprint mapping of MCS:

- Step 1: Identify main processes the client goes through from the client's initial contact until the client leaves the MCS engagement
- Step 2: Identify interaction between client and MCS. The activities that go on within the line of visibility. This identifies interaction between client and MCS.
- Step 3: Identify interaction between MCS and backend MCS related operations that go beyond the line of visibility.
- Step 4: Identification of failure points in the system and possible redesign of the service system to minimize or eliminate causes of failure.

2.5 Knowledge creation

In any consulting services, the backbone of the intellectual property lies in its ability to create, sustain and evolve its knowledge management as its competitive edge. Consulting is about knowledge, clients hire and utilize consultants on a fee based basis to benefit from the firm's knowledge and know how. The current MCS process of generating intellectual property (reports and deliverable) for a client's engagement were analyzed using a supply chain view. A supply chain is defined as (Stevens, 1989):

"*A system whose constituent parts include material suppliers, production facilities, distribution services and customers linked together via the feed-forward flow of materials and the feedback flow of information"*

As MCS is a consulting service firm, the system in this case is current internal knowledge (material suppliers), global MCS team (production facilities), internal network of knowledge database (distribution services) and the client (customers). The feedback and suggestions of the client would be representative of the feed-forward and feedback flow of information of a

supply chain. In representing the intellectual property (IP) generation process, a supply chain was drawn up representing the phases of knowledge creation. On how the demand to create IP was met, the following classification was used to identify how IP creation was initiated:

- Make to stock (MTS). Order despatched from pre-manufactured stock of finished products.
- Assemble to order (ATO). Product assembled from a stock of pre-manufactured components on receipt of an order
- Make to order (MTO). Product manufactured on receipt of an order
- Engineer to order (ETO. Product designed and manufactured on receipt of an order.

After the identification of how demand is first initiated, lean manufacturing concepts were used to identify it is possible to adopt just in time (JIT) concepts into IP creation where the emphasis is on resource and time reduction. This is to explore if it is possible to adopt lean concepts into processes where base IP concepts are “pushed” to the production line (when IP demand is initiated) and to be “pulled” for use (base IP is taken for use and modified for deliverable) without waste.

2.6 Customer satisfaction

Service quality is how well the service is provided to the customer. Service quality is how well the service provided is meeting the expectation of the client who perceived it. This means providing good quality service that is constantly satisfies standards of the client. (Gronroos, 1993) suggests that service quality is a perceived judgment of the client resulting from an evaluation process where customer compare their expectation with the service they perceive which they have received. However unique features of services that comprise of performance indications, intangible, heterogeneous, inseparable and perishables proved difficult to identify accurately and provide consistent measurements of service delivery. Also this proved difficult to ensure consistent customer experience and quality (Parasuraman, Zeithami, & Berry, A conceptual model of service quality and its implicatons for further research, 1985).Estimation of service quality has 3 phases (Yoon & Suh, 2004) (Gronroos, 1993):

- Building conceptual framework for understanding service quality in specific area. In this case the IT consulting area.
- Designing models to measure service quality. In this case (Parasuraman, Zeithami, & Berry, A conceptual model of service quality and its implicatons for further research, 1985) (Parasuraman, Zeithami, & Berry, SERVQUAL: A Multiple item scale for

measuring consumer perceptions of service quality, 1988) suggest that SERVQUAL be for service quality measurement.

- Refining the measurement method designed in phase 2 to a more dynamic model of service quality.

(Parasuraman, Zeithami, & Berry) argues that SERVQUAL is a generic instrument with good reliablity, validity and broad applicability that serves as a generic diagnostic methodology to uncover service quality gaps and strength. The orginal proposed SERVQUAL identifies 5 dimensions namely:

- Tangibles. The appearance of physical facilities, equipment, personnel and communication materials.
- Reliability. Ability to perform promised service dependably and accurately
- Responsiveness. Willingness to help client and provide prompt service
- Assurance. Knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy. Provision of caring individualized attention to customers.

The SERVQUAL instrument presented by (Parasuraman, Zeithami, & Berry) is normally presented to the respondent and queried twice. Once to measure service expectation and another to measure perception of service performance. Each measure employs a two likert scale of 7 points each. The service qualty structure in this case is represented by a gap between the two 7-point scale. The difference between expectation rating and preception rating represents a measure of perceived service quality. (Parasuraman, Zeithami, & Berry, Refinement and Reassessment of the SERVQUAL scale, 1991) (Parasuraman, Zeithami, & Berry, SERVQUAL: A Multiple item scale for measuring consumer perceptions of service quality, 1988).

The IT consulting is a service industry and its delivery does not display a characteristics of momentary delivery of specific products and services, but rather a complex delivery of serivces that is intangible, complex and can be supplied through a long term relationship with clients. IT consulting also includes specific processes such as instructional and reforming clients.various follow up study was done to asses the viability of the SERVQUAL as a service performance measurement scale. Most of the study were mainly in the area of dimension & stability and appropriateness of usage of service quality as gap score. (Headley & Miller, 1993) used 6 dimensions instead of 5 to examine the possibility of link between dimensions. (Carman, 1990) replicated (Parasuraman, Zeithami, & Berry, SERVQUAL: A Multiple item scale for measuring consumer perceptions of service quality, 1988) study noted that the 5

dimension model was stable but recommends factor analysis and reliability test to be performed prior to commencial applications. Both (Carman, 1990) (Babakus & Boller, 1992) expressed concern of SERVQUAL applicability across a range of services as the dimensions are not completely generic for all industry's use.

In the case of MCS, the client engages MCS for a specific engagement. It is about meeting the expectation of the client who perceives it. Hence in measuring the client's perception of MCS consulting services, SERVQUAL model was used. A multi-dimensional scale was developed to analyse client perceived consulting services quality. The SERVQUAL model developed by Parasuraman (1998) has been widely used and tested for measuring customer perception of service quality across multiple industries. The SERVQUAL instrument typically needs to measure both service expectation and perception of service performance. However in the case of MCS, measuring customer service experience for a yet to be released consulting offering was not possible, Hence a perception based approach was then taken to gauge the customer's perception towards MCS readiness to offering strategic IT consulting services instead.

Currently MCS performs consulting based on specific Microsoft technology or product. MCS is trying to create a new offering and move to strategic IT consulting as a whole. Hence, presently there is no such "strategic IT" offering at the moment. As such it is not possible to measure a "strategic IT" offering's perception and expectation. Initial research approach was to develop 2 sets of questionnaires:

- One measuring Gap 5 (gap between perceived service and expected service) of the client
- One measuring Gap 1 (gap between management perception of client expectation and expected service of the client)
- In this case the research is attempting to see if there is a significant difference between Gap 1 and Gap 5.

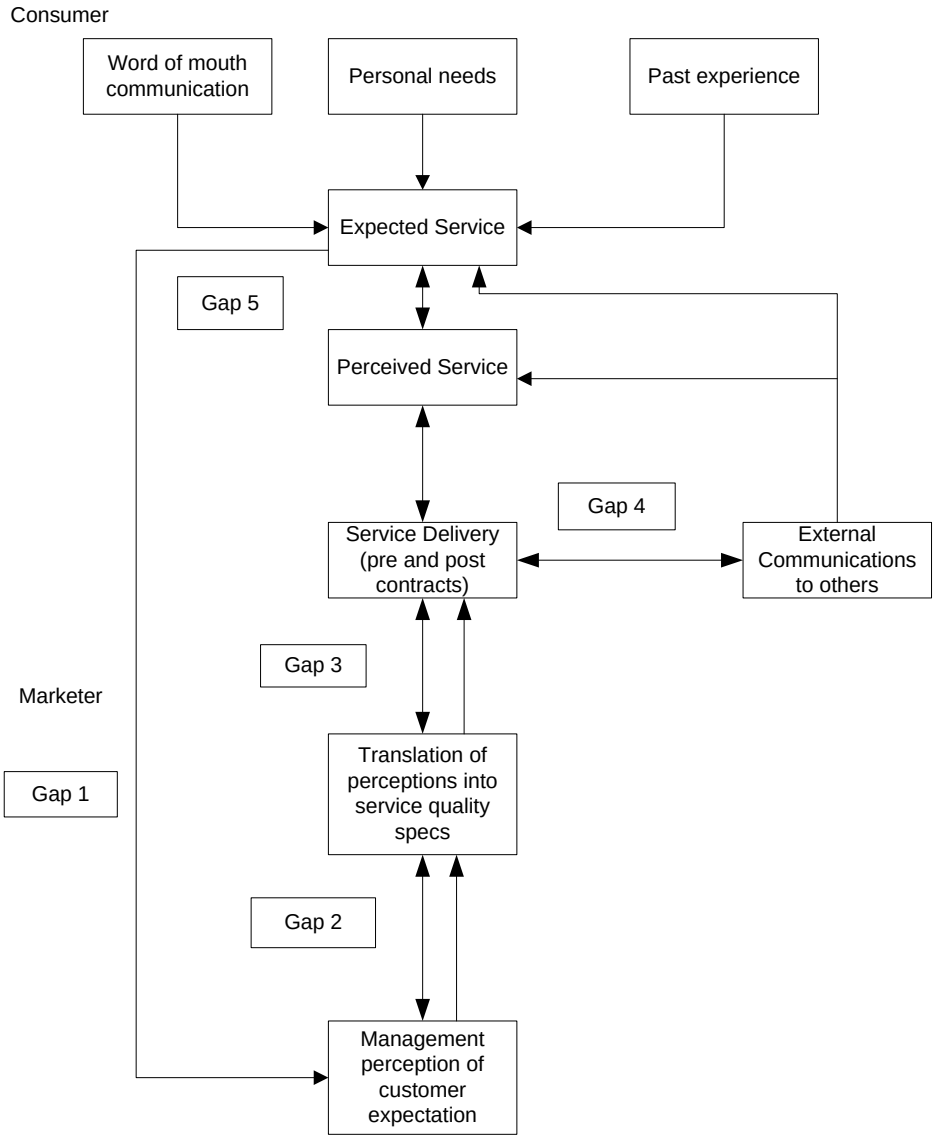


Figure 5 Conceptual Model of Service Quality (Parasuraman et al (1985))

However, as all the clients who engaged with MCS have been on technology specific engagements, none has ever been on a strategic IT engagement before with MCS. Hence, the conclusion was that measuring this would might not reflect MCS performance (in terms of quality delivery) during a “strategic IT” engagement. This method (perception/expectation of Management/client) might be useful if MCS was already offering such “strategic IT” engagements. Hence the gap if any would be more meaningful. Perception of the client might be a better gauge to asses if MCS is “ready” to deliver such engagements. As such the hypothesis is that high levels of dimensions yields high level of customer satisfaction will mean MCS would have better prospects in adding value to customer.

The tool that would be used to gauge the quality of MCS consulting delivery would be using the SERVQUAL tool as the IT consulting industry is much more service-oriented than other

IT services. The customer satisfaction study applies a model used by (Yoon & Suh, 2004) that was developed specifically to the IT consulting services sector. It composed of 7 dimensions of reliability, responsiveness, assurance, empathy, process, satisfaction and education. The first four dimensions are derived from SERVQUAL but tangibles were excluded due to the fact that consulting is a service that provides guidance and best practices. Hence for reflecting these factors “process” and “education” were added as new measurement dimensions. A focus group approach were undertaken to derive questions to gauge client satisfaction. Derived from past literature (Yoon & Suh, 2004) and through focus groups, 42 questions (general questions included) were developed and included in the survey. These questions were deliberated and were agreed upon prior to sending out to clients for surveys.

In service quality there is general acceptance that performance only measures are superior **Invalid source specified.Invalid source specified.**. The survey grouped into 7 dimensions each containing 3 to 9 questions. These dimensions and variables were then discussed with the management team of MCS and its questions were discussed. Some questions were removed due to client privacy issues.

Hence the MCS consulting SERVQUAL model were derived from (Yoon & Suh, 2004):

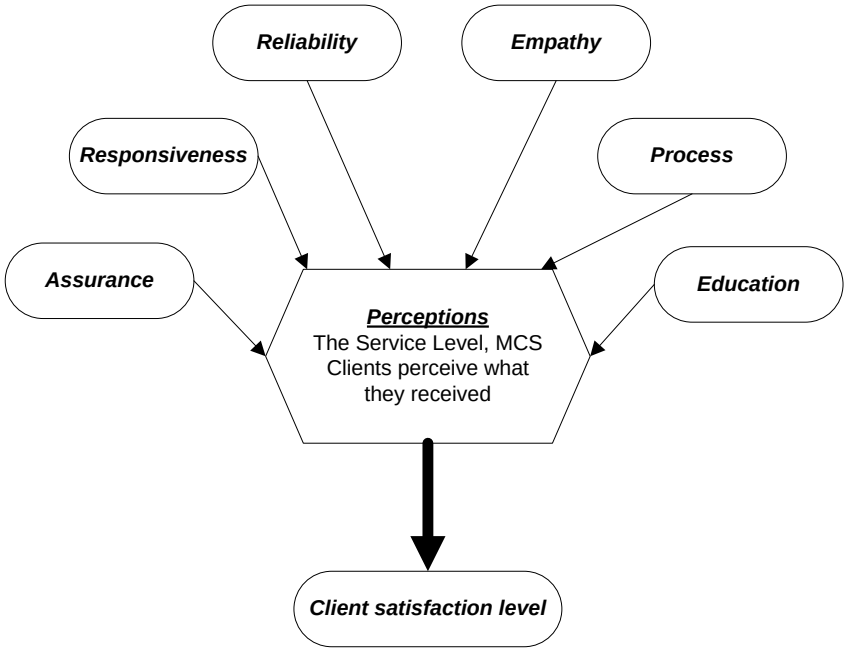


Figure 6 MCS Consulting SERVQUAL model

In discussions with the MCS focus group, the following hypothesis was formed:

Table 3 Hypothesis formed

Hypothesis	Rationale
1	Dimensions are correlated with each other. Hence it is assumed that a change in one dimension's variable would affect all other dimensions of service quality. This means that service dimensions would affect one another giving an overall service quality perception to clients.
2	All the service dimensions would collectively affect overall service quality perception.
3	All attributes rather than dimensions will directly affect the perceived service quality and clients would form the perceived service quality perception from all the attributes rather than the overall perceptions of the representative dimensions containing the attributes.
4	It is hypothesized that all service dimensions are not correlated to each other. This is based on the assumption that the service dimensions are consumed by clients as a separate process rather than a holistic overall experience.

The 4 models above were formed from initial discussions. Further models were then derived from analysis and were further tested in section 5.4 Client satisfaction. The models were then developed using structural equation modelling to show relationships between various variables and dimensions. SEM is viewed as combination of factor analysis and regression or path analysis. SEM (R & SM, 2006) is often visualized by graphical path diagram to show relationships.

3 MICROSOFT CONSULTING SERVICES

This section discusses the MCS business structure as a whole, its challenges, strategic directions and organization structure.

3.1 Overview

Microsoft is the world's leading software company with a global market share of 21.8% (Business Insights, 2008) and consolidated revenues of USD44, 282 million in 2006. It develops and manufactures software products for both personal and business use. Software includes operating systems for servers, personal computers and intelligent devices. It also sells applications for client/server environments and software development tools as well as a range of integrated online services. Microsoft operates in more than 60 subsidiaries worldwide.

Microsoft Services (Microsoft Corporation, 2008) is the consulting, technical support, and customer service arm of Microsoft. The organization helps customers and partners discover and implement high value Microsoft solutions that generate rapid, meaningful, and measurable results. With its global partner network and support infrastructure, Microsoft Services enables the successful adoption, deployment, and use of Microsoft solutions and technologies for customers.

3.2 Structure

Microsoft Singapore Pte Ltd's Services division has about 30 staff split evenly between 2 major business units namely Microsoft Consulting Services (MCS) and Premier support.

- Premier business role: With staff strength of 15 Technical Account Managers (TAMs), TAMs manage a moderate to complex scope of support issues of an assigned group of enterprise customers by acting as a technical resource and coordinating with other Microsoft groups to assist the customer in Microsoft solutions.
- MCS business role: With staff strength of 15 consultants, MCS provides technology leadership and advice to its enterprise clients on the best use of Microsoft technologies on architecture, design and implementation of Microsoft solutions.

Both Premier and MCS is headed by an Engagement Manager (CEM and PEM). Both CEM and PEM reports to the Services Director that in turns reports to the General Manager of the Microsoft Singapore Subsidiary. Below is the organization chart of the Services Division within Microsoft Singapore.

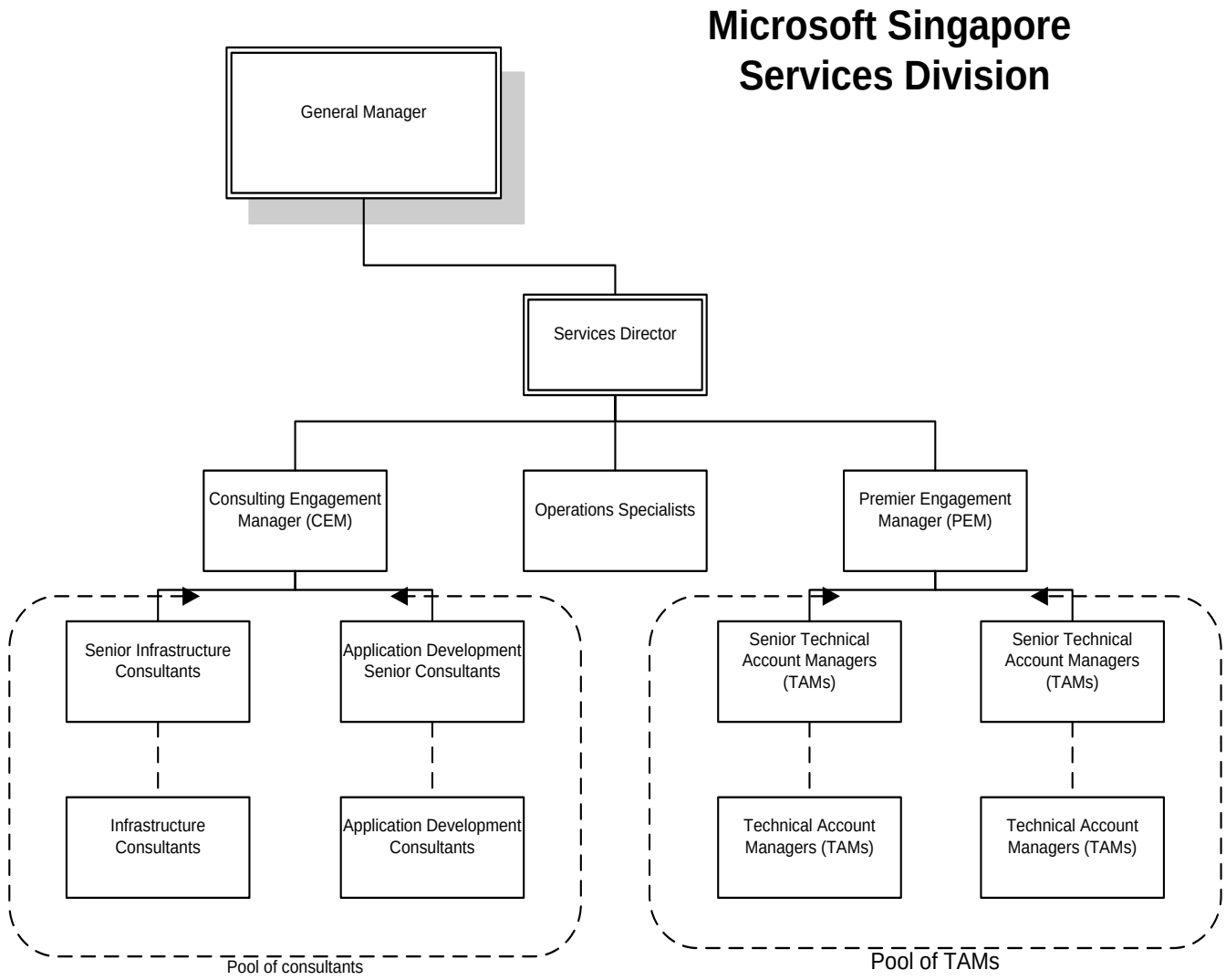


Figure 7 Microsoft Singapore Services Division Organization Chart

3.3 Market focus

MCS (Microsoft Corporation, 2008) operates and provides consulting services to clients in areas of systems development, network operations, architecture & solution designs or technology consulting. Each of these areas has unique and different business requirements that in turn require very different and specialized skill sets from consultants:

- Systems Development. Predominately software development engagement work that translate business requirements or user need into a software product or a business application system. Engagements in these areas require Application Development skills. These require knowledge of ERP, databases, CRM, document management, systems development methodologies and strong programming knowledge.
- Network and architecture design. These are networking and operating systems knowledge work that requires infrastructure consultants. These require knowledge in

areas of messaging, high availability, systems security, mobile devices and data storages.

- Technology consulting. Helmed by Senior Consultants of MCS not only encompasses all of the above but advices the customer's IT executive board on systems architecture, implementation and deployment of technologies according to business needs. However there is a need to develop a comprehensive IT Strategy offering. Currently technology consulting does not take into account overall client's strategic alignment with business.

3.4 Engagement process overview

MCS operates as a typical consulting services firm and operates engagements that varies from a minimal one month to several months depending on the complexity and needs of the customer. An engagement opportunity is either billed by the hourly basis or negotiated at a fixed capped rate. An engagement opportunity is identified via the following channels:

- Existing customer
  - TAMs that identifies the opportunity via an existing customer under maintenance contract. Opportunities identified are often the result of systems failure or proactive maintenance taken.
  - Sales account manager that manages the account and identifies the opportunity via the customer's management team.
- New customer
  - Marketing and communication awareness from product launches or campaigns
  - Sales opportunities that is pursued actively via existing contacts or cold calls.

Once the opportunity is identified and the engagement is confirmed, the Engagement Manager (EM) will now identify resources, assign consultants, budget timeline and expenses and agree on delivery. Below is an overview of a typical MCS engagement:

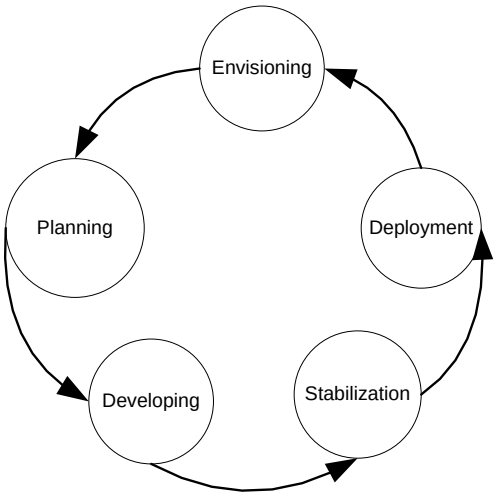


Figure 8 Typical MCS Engagement Process

Below is a generic overview of an MCS engagement, a more detailed breakdown of each phase would be covered in section 5.2 Service Blueprint:

Table 4 MCS Engagement Process

Phase	Description
Envisioning	The Envisioning phase addresses one of the most fundamental requirements for project success—unification of the project team behind a common vision. The engagement manager and project team must have a clear vision of what it wants to accomplish for the customer. They should be able to state this vision in terms that will motivate the entire team and the customer.
Planning Phase	The bulk of the planning for the project is completed during the Planning phase. During this phase, the project team prepares the functional specification, works through the design process, and prepares work plans, cost estimates, and schedules for the various deliverables.
Deploying Phase	The deployment-complete milestone culminates the Deploying phase. By this time, the deployed solution should be providing the expected business value to the customer, and the team should have effectively terminated the processes and activities it employed to reach this goal
Developing Phase	During the Developing phase the team accomplishes most of the building of solution components (documentation as well as code). However, some development work may continue into the Stabilization phase in response to testing.
Stabilizing Phase	During the Stabilizing phase, testing is conducted on a solution whose features are complete. Testing during this phase emphasizes usage and operation under realistic environmental conditions. The team focuses on resolving and triaging (prioritizing) bugs, and preparing the solution for release.

. Resourcing, identification of an assigned consultant (or consultants) to the identified opportunity very much depend on several factors:

- Complexity of the engagement problem and solution needed.
- Skill sets. Existing pool of consultants may not have the proper skill sets to staff the engagement. In this case, the Engagement Manager (EM) may need to source out consultants from outside Microsoft Singapore but within Microsoft's MCS consultants

worldwide. This will lead to extra cost depending on the hourly rate of identified consultants from overseas.
- Lack of resources. All consultants are engaged but assigned to other engagements. The EM may again look to outside Microsoft Singapore or local subcontracted partners.

A typical medium sized engagement will typically be staffed by 2 consultants (One senior and one associate consultant). The whole engagement process will be lead by the EM. Technical crafting and solution will be lead by the experienced senior consultant. Logistics, legal and commercial paperwork however is handled by the operations specialists; see Figure 7 Microsoft Singapore Services Division Organization Chart.

3.5 Challenges and strategy moving forward

MCS area of focus and expertise is on Microsoft based technologies and solutions are based on Microsoft application and server software. This excludes areas that do not run on Microsoft compatible applications and software such as server hardware, network equipments and certainly not business consulting.

Current business challenges MCS faces:

- With 97% (Microsoft Watch, 2008) of Operating Systems in the world running on Microsoft Operating System. Microsoft makes product knowledge available on the internet (Technet, 2008) and via certification (Microsoft Training, 2008) training to partners as much as possible for purposes of best practices, security and lower support cost for both Microsoft and consumer. However this makes MCS less relevant and less justifiable in terms of a customer's investment as in terms of cost. MCS rates in comparison to other partners are relatively high. For a medium sized company, the justification of rates in consulting services is quite substantial, why pay for MCS rates when MCS only does Microsoft only products and solutions when competing local system integrator does hardware, networking, security and Microsoft products and solutions as well? When bundled together with hardware purchases, customers can negotiate for a better price of the engagement. MCS competes in these areas mainly with local system integrators.
- Challenges from other IT consulting arm such as IBM Consulting, Accenture, Avanade, HP Consulting and Dell.

Current engagement challenges MCS faces:

- MCS Singapore business and opportunities is identified via the sales and marketing. The sales manager or business development manager identifies and closes the sales and it is then up to the EM to engage on the identified project. This sometimes causes breakdown in communications in terms of engagement coverage and over promise of scope of work. The EM sometimes needs to tie up loose ends in terms of commitments and sometimes double up as the sales manager capacity to identify opportunities as well.

- Most typical MCS engagement is based on customer needs and customized according the customer's environment. This means the consultant will do analysis, propose recommendation, deploy the solution and ensure successful delivery. However in a typical Microsoft server or applications common configurations and best practices are normally standard and common in most instances of system implementation and deployment. MCS common knowledge base repository is based on a collection of worldwide submitted whitepapers, projects based on best practices and prescriptive guides. These contents however are mainly based on US and European cases. There is lack of localized Asian content. Consultants in Singapore and Asia face difficulty sometimes in adapting the prescriptive guides simple because they are based on US cases.
- Common MCS solution offerings to customers are based on worldwide Microsoft released set of solutions. Most of these offerings suits the US and Euro countries. There is lack of Asian based offerings. Sales and EM sometimes need to re-draft or re-package the offerings to suit customers.

MCS business strategy moving forward:

- MCS need to engage the customer on a more business value added mindset than a "best in Microsoft technology" mentality. This requires not only technical competency but business knowledge as well.
- Not all customers run on pure Microsoft technologies. As such is essential for MCS consultants to also acquire knowledge in non Microsoft products as well as migration and systems compatibility. Instead almost in all cases, customers environments runs on a mixture of technologies such as:
    - Operating systems – Linux, Sun, Novell
    - Messaging – Groupwise, Lotus Notes
    - Databases – Sybase, Oracle
    - ERP – SAP
    - Systems development - Java
- Utilized partners and system implementers in a more efficient and value added way. Partners are essentials to MCS in terms of lowering cost and resource constraints. They should be viewed as partners and not competitors.
- Need to drive down work needed from re-drafting worldwide global solution and offerings. This is valuable time wasted and non value added rework that drives engagement cost up.
- Consultants need to engage customers beyond common technical expertise to a trusted advisor that understands business needs and translate that into technical solutions.

4 METHODOLOGY OF RESEARCH

4.1 Methodology overview

(Shields & Tajalli, 2006) suggests that conceptual framework acts as maps that give coherence and attributes to the success of an empirical research. Hence, a conceptual framework for this management project was created as guidance and maps all aspect of inquiry pertaining to this research. Below is a diagrammatic view of the conceptual framework (for larger view please refer to section Supporting Diagrams – Conceptual Framework):

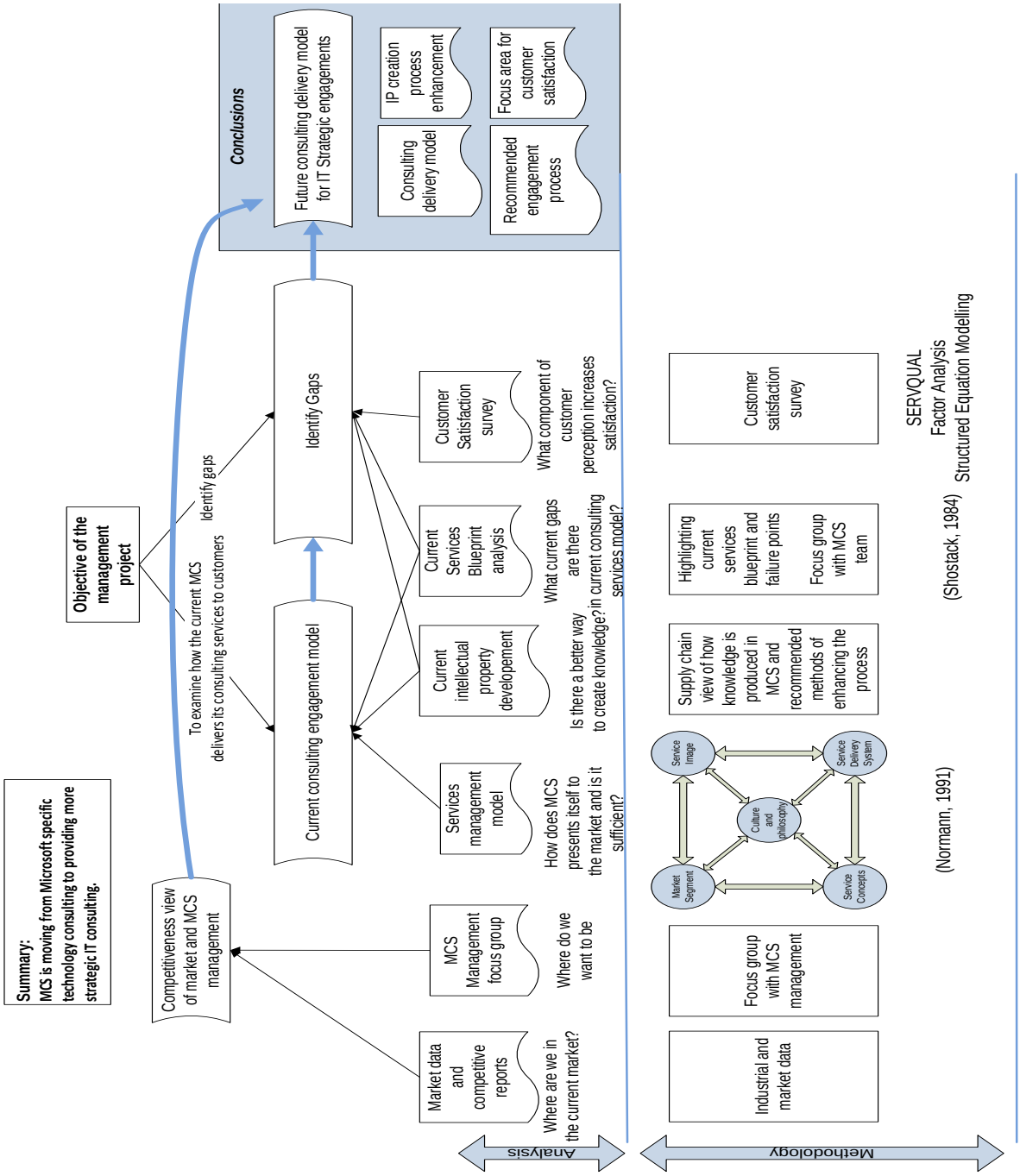


Figure 9 Conceptual Framework

The framework ties together the following main elements:

Table 5 Conceptual Framework elements

Elements	Description
Objective of the research	Examining how the current MCS delivers it services to clients and identify gaps
Competitiveness	Current competitiveness of MCS

Current engagement model	Current MCS engagement model
Gaps	Gaps in MCS engagement delivery and knowledge creation
Methodology	Methodologies and data collection technique used.
Conclusion	Conclusion of the findings and recommendations.

Exploratory research was also carried out using an ethnographic approach grasp an understanding of MCS consultants and managers perception of current state of MCS operations in an attempt to identify thinking behaviour and eventually mapping the observation. According to (Gill & Johnson, 1997), an ethnographic approach may involve participant observation, by adopting predominantly an inductive framework. Hence focus group approach were used in gathering empirical inquiry in service management model, service blueprint and knowledge creation. Focus group participants were identified and invitation was sent out using meeting requests with an agenda. In each case, a meeting room was used for the discussion. Participants were briefed on the methodology used and were advised to avoid any bias data or opinion that may stifle open discussion. The brainstorming, deliberations and conclusions were noted as discussions went along.

Customer satisfaction data was also another important aspect of research. The challenge was that there are currently no strategic IT consulting being offered at the moment to clients. Most or all of MCS services is focused upon specific product offerings or set solutions. As such gauging customer service experience for a yet to be released consulting offering was not possible. Instead a perception based approach was then taken to gauge the customer's perception towards MCS readiness to offering strategic IT consulting services instead.

4.2 Service management model

The Microsoft Consulting Services (MCS) consulting engagement process and operations was analyzed using the service management system model (Normann, 1991). The Service Management Model analysis was performed in a focus group that included the following participants:

- One Services Director
- Two Engagement Manager
- One Consulting practice manager

The participants were chosen for the focus group as they have direct influence on how the service management model of MCS should be. In identifying the various aspects, the focus

group brain stormed in a discussion room in identifying each aspects of the service management model. The focus group deliberated and structured current processes, practices, business concerns, strategic goals and objectives of each aspect.

4.3 Service blueprint

The current MCS engagement processes were analyzed using a service blueprint (Shostack, 1984) mapping of current service process and analysing process failures. Service blueprint analysis was performed in a focus group that included the following participants:

- One Engagement Manager
- Two Consultants
- Two Senior Consultants

The participants were chosen for the focus group as they represent the main roles that a client would encounter in a typical engagement. In identifying the processes, the focus group brain stormed in a discussion room going through all the four steps needed in identifying current engagement processes involved, interaction processes and internal backend interaction supporting the processes. At the end of the service blueprint mapping, possible gaps and failure points of services were identified. While keeping in mind MCS future offering of IT Strategic consulting services. The focus group deliberated and made enhancements to recommend a new service blueprint model for delivering an IT Strategy consulting services.

4.4 Intellectual property management

The current MCS process of generating intellectual property (reports and deliverable) for a client's engagement were analyzed using a supply chain view. As with the service blueprint, the knowledge creation analysis was also performed in a focus group that included the same participants as they are the creator of the intellectual property and also managers of knowledge management within MCS. In identifying the supply processes, the focus group brain stormed in a discussion room mapping out how demand for IP is first generated. Then classifying the demand type based on one of the following order fulfilment classification:

Table 6 Supply Chain system classification

System classification	Description
MTS	Made to stock. Order dispatched from pre-manufactured stock of finished products

ATO	Assemble to order. Product assembled from a stock of pre-manufactured components on receipt of an order
MTO	Make to order. Product manufactured on receipt of an order
ETO	Engineer to order. Product designed and manufactured on receipt of an order.

These maps out the supply chain of a current supply chain representing the IP generation. The focus group then brainstormed to identify where enhancements can be to the supply chain.

4.5 Customer satisfaction

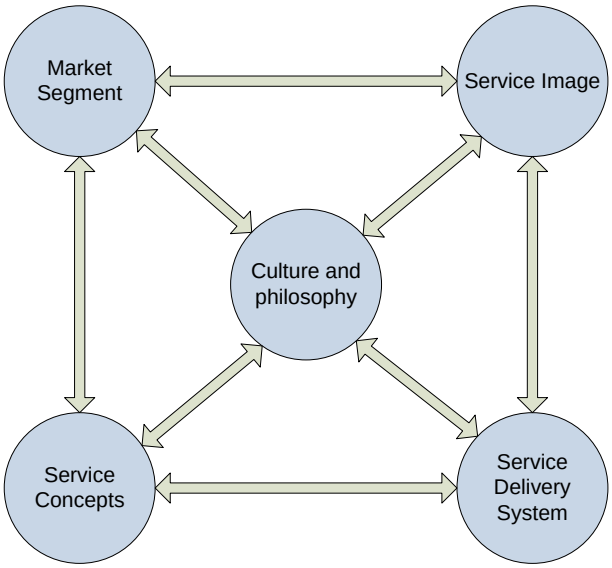
In measuring the client's perception of MCS consulting services, SERVQUAL model was used. The surveys were distributed via 2 methods:

- Via a technology convention that was held for Microsoft clients
- Via Microsoft's services various technical account manager that visited customers on their weekly meeting.

The surveys were sent out and were returned in 2 weeks time either via email or signed hardcopy. Total respondents were about 120, out of which 90 were valid responses. 30 responses were partially filled or have not filled up all of the responses correctly. Measurement and analysis were done using Minitab and SPSS AMOS statistical software. Initial measurement to check for dimension internal consistency was done using Cronbach's $\propto$. Factor analysis was then performed on all independent variables to identify naturally occurring dimensions. Measurement of internal consistency correlation using Cronbach's $\propto$ was done again to check for internal consistency. Identifying variable with acceptable load factor was included and extracted into groups using iteration to identify common groups of variables to newly defined dimensions. Correlation and covariance was then done on the newly identified dimensions against dependent variable. Structured Equation Modelling was then done by building a confirmatory factor analysis model and testing the hypothesis for model fit and validation.

5 ANALYSIS

5.1 Service Management



5.1.1 Culture and Philosophy

Microsoft's strategy on a global basis is:
"Be the industry-leading innovator of software…delivered through applications, hardware, and services…spanning our four businesses"

Microsoft Consulting Services main goal in offering IT Strategic engagements are:
"To understand an organization's (or business units) needs and be able to make better-informed and higher value decisions and recommendations about how to best invest the organization's resources in its information technology assets."

In conversations and feedback with senior executives of MCS's clients, MCS management feels that strategy is often seen as an annual event that produced a strategy document. However the pace of technology-driven change far outdates the traditional strategic making process. Clients are beginning to feel that annual set solutions aren't enough to stay ahead of competition. Hence a more dynamic approach is needed. As (Montgomery, 2008) has shown in the diagram below, strategy is a continuous iteration where value creation is goal of the process.

The Prevailing Approach: **Strategy as a Set Solution**		What Is Missing: **Strategy as a Dynamic Process**
A long-term sustainable competitive advantage	Goal	Creation of value
The CEO and strategy consultants	Leadership	CEO as chief strategist; the job cannot be outsourced
Unchanging plan that derives from an analytical, left-brain exercise	Form	Organic process that is adaptive, holistic, and open-ended
Intense period of formulation followed by prolonged period of implementation	Time Frame	Everyday, continuous, unending
Defending an established strategy through time	Ongoing Activity	Fostering competitive advantages and developing the company through time

Figure 10 Strategy as dynamic process

While MCS recognizes the fact that leadership as pointed out by (Montgomery, 2008) is lead by the CEO and the senior executives, Microsoft can play a role as trusted advisors to the senior management. Feedback throughout the years prompted MCS to realise that clients do want MCS to be more of a value added partner rather than a vendor of selected Microsoft technology. As (Maister, Green, & Galford, 2004) has pointed out, MCS should evolve from a “subject matter or process expert” and “subject matter experts plus affiliated field” to “trusted advisors”.

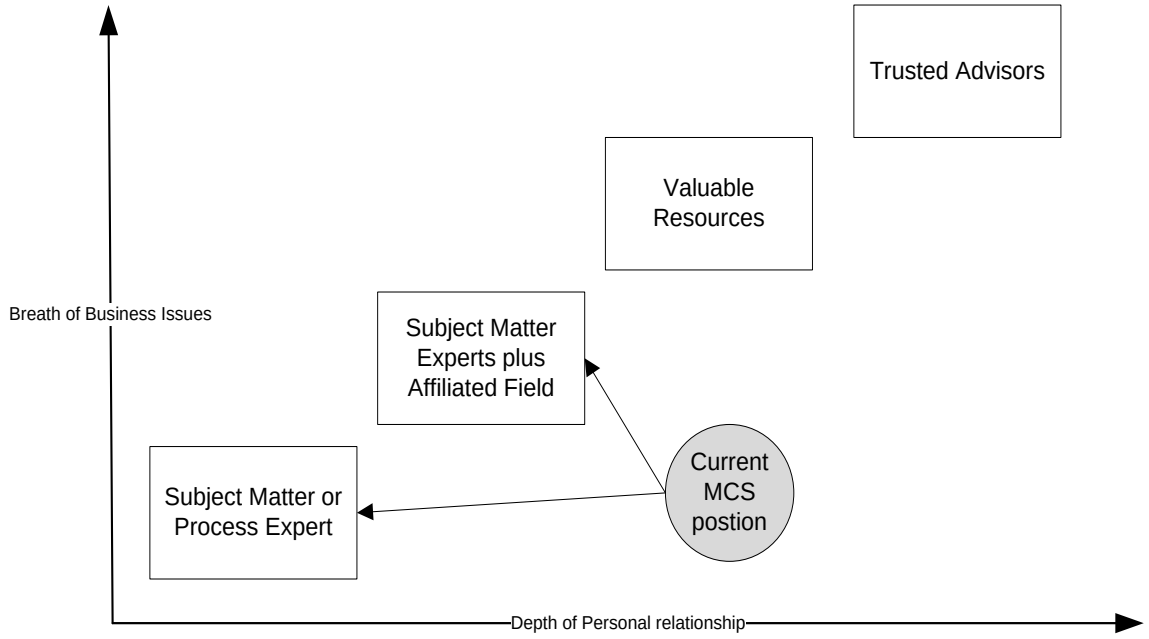


Figure 11 Evolution of Client-Advisor Relationship

Current relationship of MCS with clients (Maister, Green, & Galford, 2004) also needs to move from a “service offering based” and “needs based” to “trust based “.

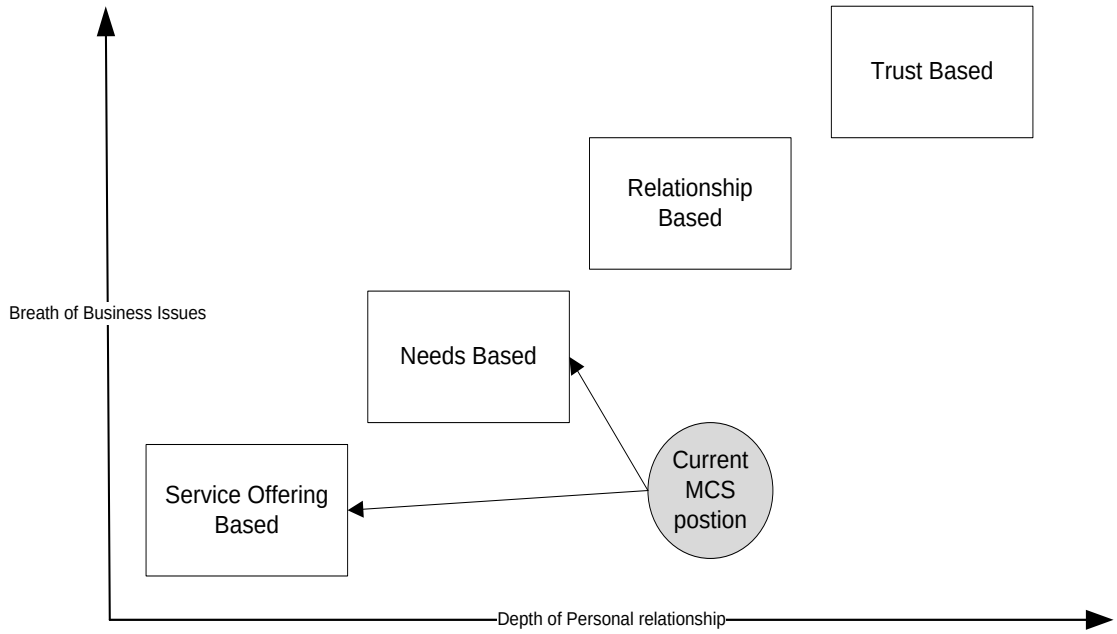


Figure 12 Four Types of Relationship

Having realised the need to change to trust based approach engagements, MCS must also recognize the fact that with change in relationship types, there needs to be a change (Maister, Green, & Galford, 2004) in focus and approach within the engagement.

Table 7 Characteristics of Relationship level

	Focus is on	Energy spent on	Client receives	Indicators of success
Service based	Answers, expertise, input	Explaining	Information	Timely, high quality
Needs based	Business problem	Problem solving	Solutions	Problem resolved
Relationship based	Client organization	Providing insights	Ideas	Repeat business
Trust based	Clients as individuals	Understanding the clients	Safe haven for hard issues	Varied; e.g. creative pricing

More often than not, all MCS clients are consisting of organizations that are in business to create value and profit (or in the public sector – to get the best utility for society from the money they have). IT strategy for these organizations is often part of the strategic tool that drives value. IT strategy according to MCS management has three fundamental ways to do this:

- Cost reduction in business operations.
- Increasing value in a product or service sale, an increase in perceived value allows for a price increase.
- Expand market reach. This means higher market penetration and/or new markets. An IT department may find ways to deliver more IT within their business, or even to sell IT services to other organizations.

Hence, it is imperative that MCS must address client's needs and extend services that are beyond traditional technology focused offerings. Often MCS consultants that provide traditional architectural services to clients often don't have "visibility" to the level of the organizations senior leadership team. For this reason, an IT Strategy approach will most often suggest itself. It has been from past experience that consultants that are conversant with "business strategy" methodologies and tools can often earn a seat at the table for themselves—or for their information technology department clients—at the senior leadership table.

5.1.2 Service image

Microsoft has always been known as a software company since inception. To MCS clients, Microsoft is known for its desktop and operating systems, productivity and database implementation experts. MCS area of focus and expertise is on Microsoft based technologies

and solutions are based on Microsoft application and server software. This excludes areas that do not run on Microsoft compatible applications and software such as server hardware, network equipments and certainly not business consulting.

Hence it is a challenge to perceive MCS as being more than just a technology subject matter expert in selected products. Also, Microsoft (MCS) does not do business consulting unlike IBM Consulting, Accenture and HP Consulting. These consulting firms offer much better value added engagement work to the customers. The services could range from technology and architecture to consulting and outsourcing. A good example would be IBM (Center for Business Optimization, 2008) for example is able to relate to the customer the value inventory optimization solutions using SAP and at the same time provide enterprise consulting and outsourcing services as well.

Hence enterprise customers finds it easier to relate to an IT solution that address a for a business solution. (Toppin & Czerniawska, 2005) calls this vertical integration. IBM below is shown as providing services across hardware/software services, consulting and outsourcing.

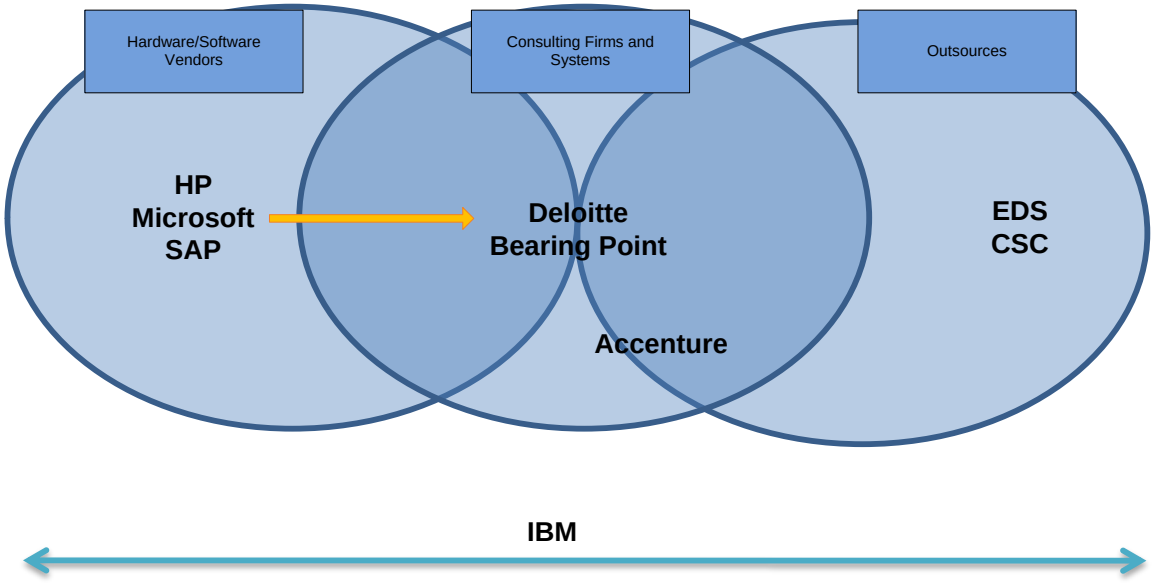


Figure 13 Vertical Integration

Hence Microsoft (MCS) must move away from its image being a software vendor to a consulting firm. However in order to avoid direct competition with current traditional consulting firm, MCS must compete and differentiate by offering value that only Microsoft can deliver. See section Market segment below.

5.1.3 Market segment

The estimated IT consulting market annual growth for Asia Pacific estimated to drop from 8.5% (2008) to 5% (2010) (Kennedy Information, Inc, 2008). Estimates indicates higher growth forecast in non US markets with demands prevalent in Asia pacific and Latin America markets.

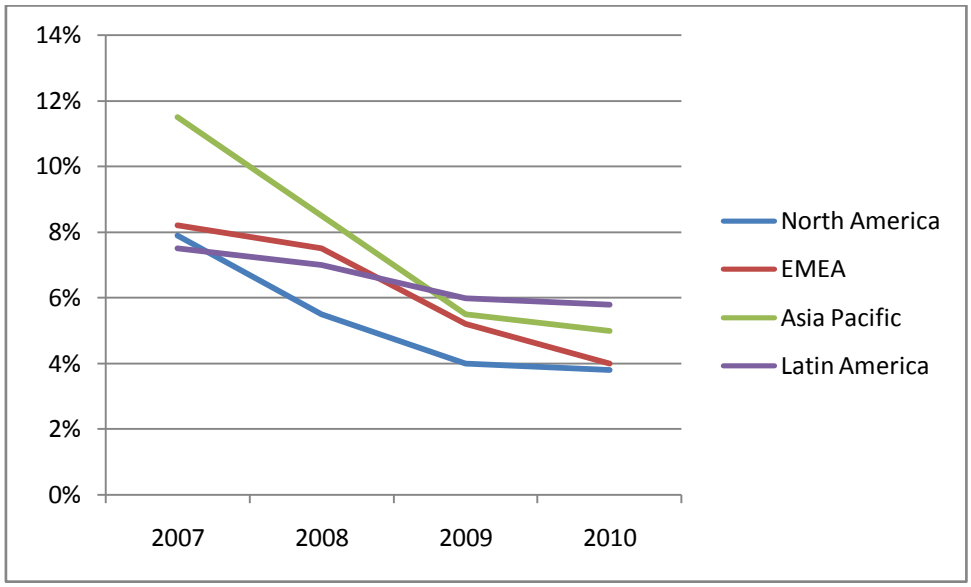


Figure 14 IT Consulting Market Annual Growth Rate by Geography, 2007 – 2010

Below are what Kennedy (Kennedy Information, Inc, 2008) estimates in 2008 opportunities lies in the following segments and feedback from MCS management on the opportunities:

- Globalization. With the world becoming a global economy, client issues becomes more complex. Microsoft with its global reach in almost 120 countries would have an opportunity to leverage on economy of scale by exploiting global reach capabilities.
- Governance. With increasing focus on Service Oriented Architecture (SOA), consultancies capable of building sound processes stand a better chance of success. MCS should take advantage of advocating already build intellectual property around Microsoft views SOA in a different view using its own Software as a Service (The Microsoft Platform and SaaS, 2008) (SaaS) platform. McKinsey (Dubey, Mohluddin, & Baijal, 2008) defines "*Software as a Service" as a set of technology and services that is used to develop, deploy, integrate and deliver SaaS applications*. However many SOA version's exists. Although lack of SOA standardization among industry vendors, the major issue isn't about integration between versions, but about understanding fundamental business processes that is important to an organization and harness that into a differentiation edge for MCS. In a survey conducted by McKinsey and SandHill, SOA was voted as the most important trend impacting organizations in year 2008 (McKinsey&Company & SandHill, 2008).

- Specialization. Mature market demands consultants with direct business knowledge. Consultancies with economics of scale and ability to front large engagements would have an advantage. This means that MCS cannot just rely anymore on traditional technology consulting and software upgrades to engage customer. Market saturation demands that the MCS consultant to be aware of both business issues at hand and technology alignment to strategic needs.
- Non US market. The slowing of the US economy shifts the market demands outside of US, this includes Asia Pacific. MCS Singapore is often seen by Asia Pacific as the hub or regional expertise of Asia Pacific. MCS should take advantage of this.

A glance at (Kennedy Information, Inc, 2008) report of largest global IT consulting practices lists the following 5 top firms:

Table 8 Largest IT Consulting Practice

Revenue Rank	Firm	2006 IT consulting Revenue ($ millions)	2006 Global Market Share
1	IBM	11,127	7.6%
2	Fujitsu	6,949	4.7%
3	Accenture	6,860	4.7%
4	CSC	6,618	4.5%
5	Capgemini	4,365	3.0%

While there are no figures indicating revenue and market share for IT Consulting in Singapore, there are indicative figures for Asia Pacific (Kennedy Information, Inc, 2008):

Table 9 Largest IT Consulting Practice in Asia Pacific

Firm	2006 IT consulting Revenue ($ millions)	Global Share	Asia Pacific Revenue	Asia Pacific Share
Fujitsu	6,949	4.7%	5,212	23.5%
IBM	11,127	7.6%	2,782	12.5%
NTT Data	2,098	1.4%	2,035	9.2%
Accenture	6,860	4.7%	1,029	4.6%
CSC	6,618	4.5%	463	2.1%

MCS sometimes partners system integrators in an engagement depending on customer needs and skill sets requirements. These partners are sometimes competitors to MCS in certain engagement tenders. Using data from (Kennedy Information, Inc, 2008), and internally developed framework, MCS management compared Microsoft Consulting Services against the top five IT consulting practice firms in Asia Pacific in terms of IT consulting capabilities, these firms fits the profile of partners and competitors of MCS in the Asia Pacific region.

Table 10 Comparisons of MCS and Asia Pacific top 5 consulting practice firms

	Kennedy Information 2008 report on top 5 consulting practise in Asia Pacific					**MCS Management Perception**
IT consulting services	**Fujitsu**	**IBM**	**NTT Data**	**Accenture**	**CSC**	**MCS**
Enterprise IT Strategy/Architecture	Moderate	Strong	Strong	Weak/None	Strong	Weak/none
Systems/IT Strategy/Architecture	Weak/none	Strong	Strong	Strong	Moderate	Strong
ERP/Finance	Moderate	Strong	Strong	Strong	Moderate	Weak/none
HR	Moderate	Strong	Weak/none	Strong	Moderate	Weak/none
CRM	Moderate	Strong	Strong	Strong	Strong	Moderate
Supply Chain	Moderate	Strong	Moderate	Strong	Moderate	Weak/none
Industry Specific Functions	Moderate	Strong	Strong	Moderate	Moderate	Weak/none
SOA Enterprise Application Integration	Weak/none	Strong	Moderate	Strong	Strong	Moderate
Application Development	Weak/none	Moderate	Strong	Moderate	Moderate	Strong
Business Intelligence	Moderate	Moderate	Strong	Moderate	Moderate	Moderate
Enterprise Information Integration	Weak/none	Strong	Moderate	Moderate	Moderate	Moderate
Infrastructure Services	Moderate	Strong	Moderate	Moderate	Moderate	Moderate

Database services	Moderate	Strong	Moderate	Strong	Moderate	Moderate
Information Security and Governance	Moderate	Strong	Strong	Strong	Strong	Moderate
Senior Consultants	Weak/none	Strong	Strong	Strong	Moderate	Moderate
Repeatable solutions	Weak/none	Strong	Weak/none	Moderate	Strong	Strong
Intellectual Properties	Strong	Strong	Strong	Strong	Moderate	Moderate
Strategic Alliances	Moderate	Strong	Moderate	Strong	Weak/none	Moderate
Partner Ecosystem	Weak/none	Strong	Weak/none	Moderate	Weak/none	Strong
Offshore	Moderate	Strong	Weak/none	Strong	Moderate	Moderate
Onshore	Strong	Strong	Strong	Strong	Strong	Moderate
Nearshore	Weak/none	Moderate	Moderate	Strong	Weak/none	Weak/none

Hence, the Microsoft Consulting Services (MCS) capability mix can be summarised as below:

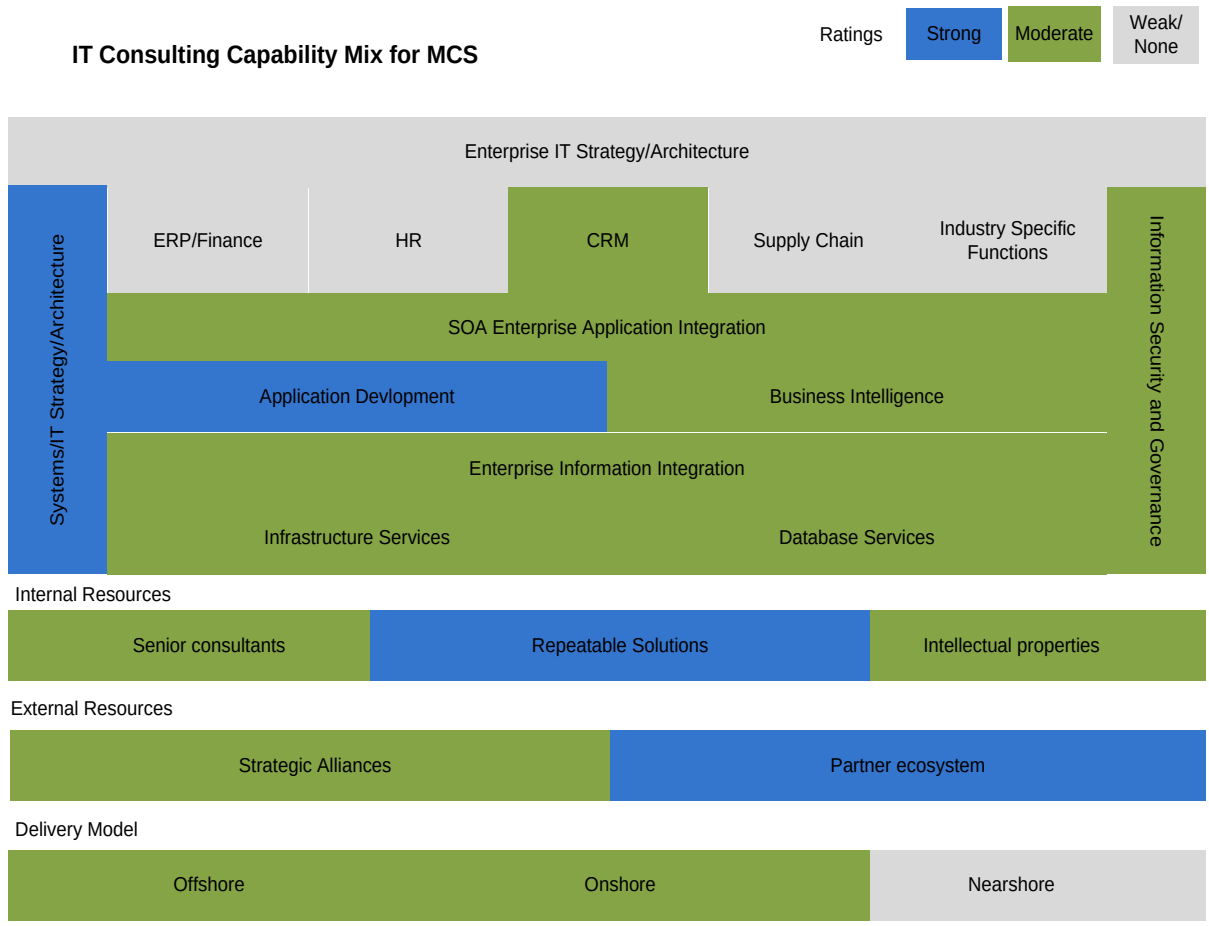


Figure 15 MCS capability mix

It is then clearly seen that MCS is currently perceived as strong and moderate in specific technology focused solution. MCS management perceives that there is much to be done in the area of technology solution alignment with business needs as well as overall enterprise IT strategy services.

From internal data gathered in the year 2006 – 2008 (Microsoft Services Asia, 2008), MCS clients in Asia-Pacific and Japan typically display the following traits and needs:

Table 11 MCS Engagement Types

Engagement types	% of total engagements	Description
Technology focused engagements	60	Engagement needs that require MCS to guide implementation and project management of specific Microsoft technologies. This demand is seen my MCS management to remain strong.
Project management engagements	30	Engagements that require MCS to helm a project as a project management role. Typically involving a technology implementation and would involve 3rd party partners and vendors.
Strategic engagements	10	These are senior management facing engagements and addresses strategic concerns and issues. Typically addresses areas of technology management, industrial practice or overall strategic architectural IT planning. The demand for this type of engagement is seen to be rising with 5% year on year.

As such the typical MCS client in general would be classified as a customer and service oriented set of clients. Hence to be able to compete in an already saturated market and competitive landscape, MCS needs to compete in a segment where MCS can deliver the highest possible value proposition that only Microsoft (MCS) can deliver. (Reinart & Wolfgang, 2008) argues that for a product-centric companies like Microsoft, services strategies are part of drivers for growth. Comparing (Reinart & Wolfgang, 2008) three drivers of growth, it can be observed that MCS clients exhibit the following traits:

- ***Outsourcing trends***. In recent years, asset optimization has been a source of concern with clients finding ways to focus more on core businesses, lower cost and outsource nonstrategic processes such as implementation of Microsoft Offices to vendors.
- ***Saturation of an install base***. Saturation in the same market segment of the same IT consulting market share by the same competitors forces companies like IBM, Microsoft, HP, SAP and others to make major acquisitions or to develop services to maintain competitive edge and differentiation.
- ***Commoditization in product market***. With increasing sophistication deep knowledge of technologies of vendors, decreasing products prices due to product lifecycle and commoditization, most vendors and partners of MCS can already satisfy

minimal product requirements in delivery engagement. Hence principal vendors like IBM and Microsoft needs to fine tune services to set themselves apart from the competition.

MCS management concluded that that in every MCS client's organization there are at least a significant amount of investment on Microsoft products either as part of an enterprise architecture platform or as productivity tools. These can be either as operating systems such as Windows operating systems (server or desktop) or collaborative tools such as Microsoft Office.

For IT strategy consulting engagements to be successful, MCS must address key fundamental business concerns of the client. This would meant that MCS would venture into business consulting market that is dominated by pure business consulting firms such as McKinsey, Bain and Co, Boston Consulting and such and at the same time differentiate itself from partners and currently traditional MCS technology centric solution. Hence there is a need to adopt a business model where MCS offers a compelling value proposition to clients.

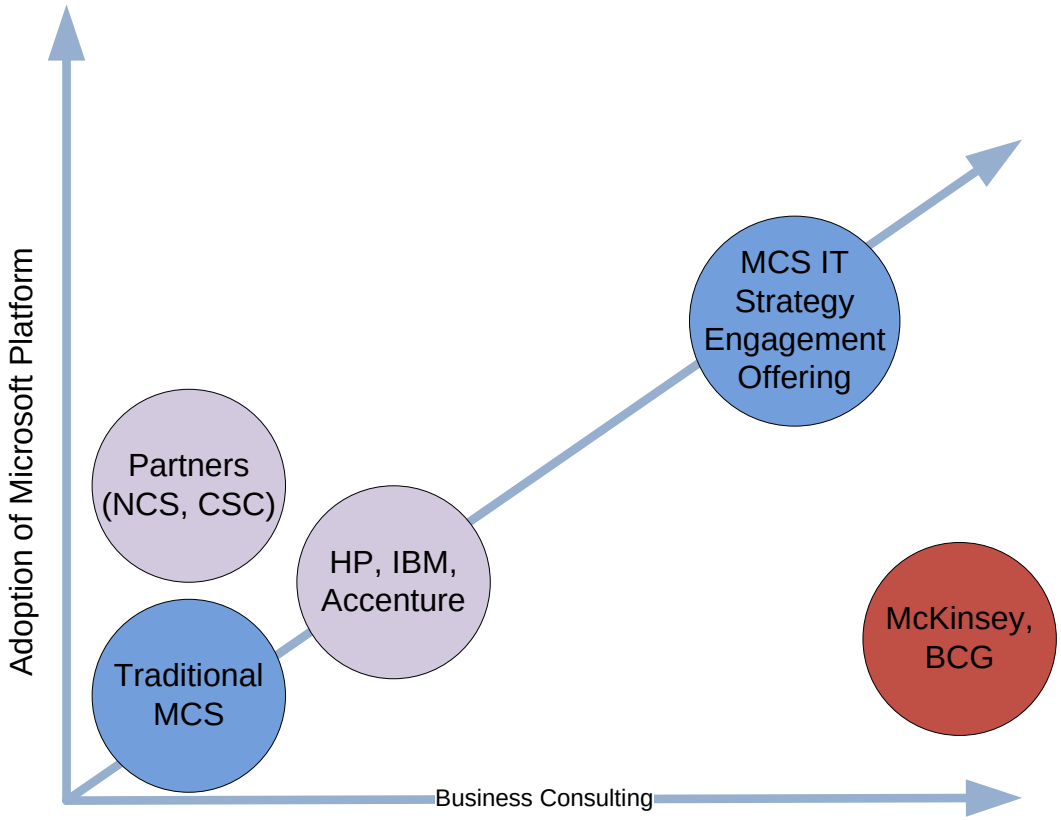
Hence the most feasible market segment that MCS can offer consulting services offering would be:

Table 12 MCS IT strategy offering market segment

Microsoft product adoption	**Business Consulting**	**Offering**
Client has a significant adoption of Microsoft platform. This may also include clients that has purchased Microsoft products but have not deployed the products for use organization wide. Clients may not be properly trained on certain products.	Little or none	Traditional MCS offering that optimizes the client's Microsoft platform according to needs. Alternatively Microsoft certified implementation partner can be called upon.
Little or none. Microsoft platform adoption if any would be of little significant impact to organization strategy.	High business consulting needs	MCS do not compete here
Has high adoption and understanding of Microsoft platform.	**Has business issues and consulting needs that can be potentially addressed with Microsoft platform**	**MCS IT Strategy engagement offerings.**

Below is a diagrammatic view of the market segment that MCS can compete.

Table 13 MCS IT Strategy Market Segment



It can be concluded that MCS should target clients who have high adoption of Microsoft Platform and at the same time has issues and needs that can be potentially addressed by Microsoft Platform. This way, MCS can avoid coming into direct competitive position against partners (NCS, CSC), other IT firms (such as HP, IBM) and pure consulting firms (McKinsey, BCG).

5.1.4 Service concept

IT Strategy engagements perceived by MCS management are a combination of IT enterprise architecture, planning and business strategy. According to (Sykes, 2005), one cannot discount any one of the following essential components to making IT Strategic engagements successful.

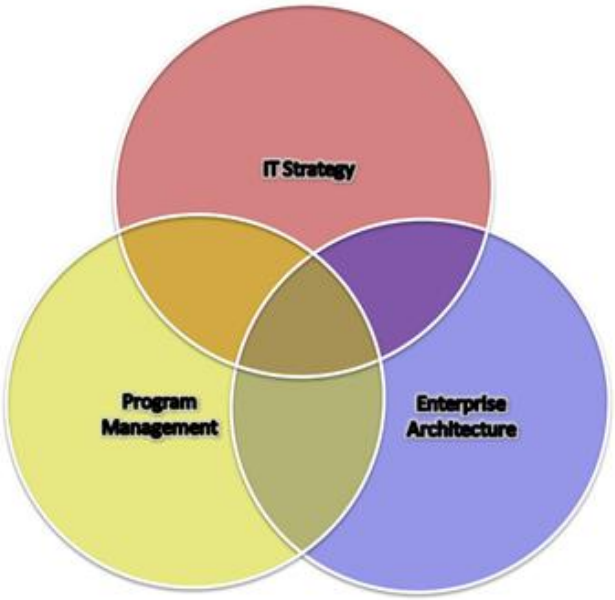


Figure 16 IT Strategy, program management and enterprise architecture

The essential elements (shown above) are

- *IT Strategy* that defines overall organization's medium and long term business strategy plan.
- *Enterprise Architecture* that defines the underlying supporting technology architecture that supports and aligns with IT strategy.
- *Program Management* that defines programs and initiatives driving the above.

These are tightly coupled activities in any IT strategic engagements.

From the activities above, the service concept or value proposition of the IT Strategic engagements to clients are delivering value, identifying benefits and reduction of cost. The engagement would accomplish this using the activities above:

- The outcome of IT Strategy is the creation of an *Opportunities Portfolio*, which is an input for Enterprise Architecture.
- The outcome of Enterprise Architecture is a *Transformations Portfolio*, which is an input for the Program Management Office.
- The outcome of the Program Management activities is a *Project Portfolio*, which informs subsequent refinements to IT Strategy.

Each *portfolio* would represent a tangible deliverable in the form of assessment (depending on client's need of value, benefits or cost reduction mixture).

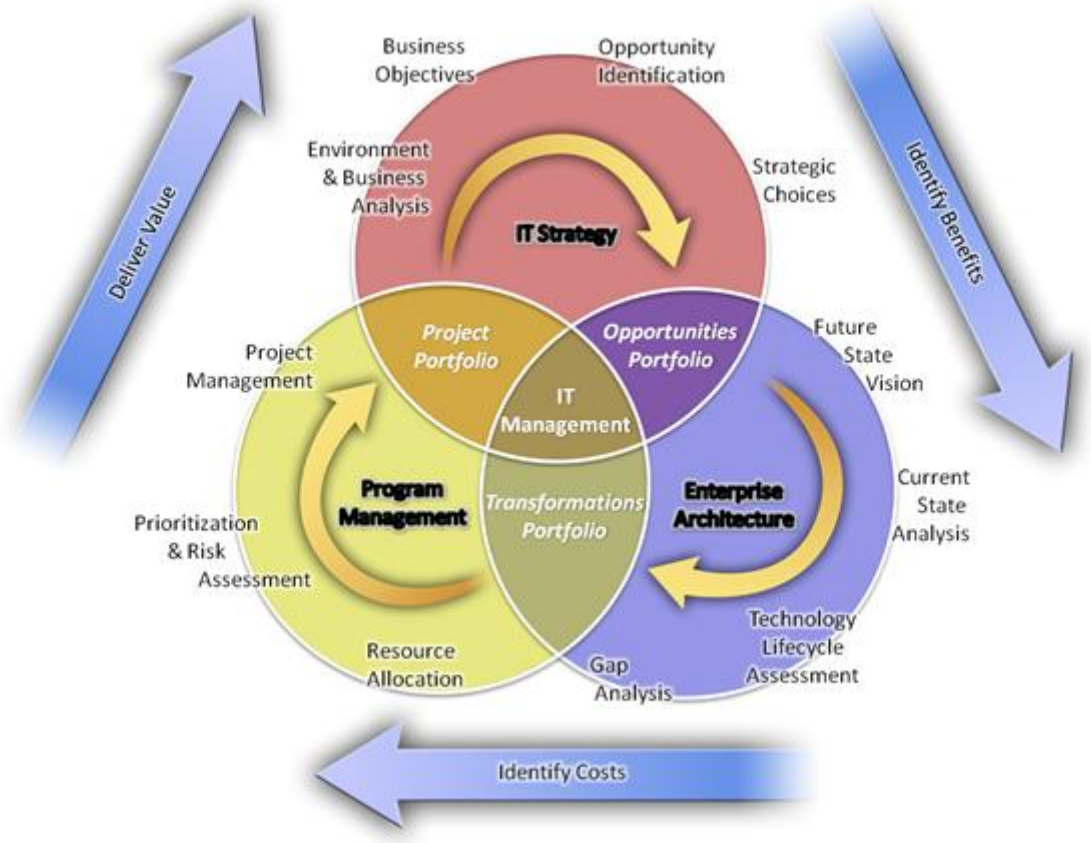


Figure 17 Value Proposition of IT Strategic Engagements.

In this way, an IT Strategic engagement would address and approach client's needs comprehensively and on a holistic level rather than a current traditional technology only approach.

5.1.5 The service delivery system

The delivery of the IT strategy engagement would be part of the current existing Microsoft Services portfolio of services that clients receives, it includes:

- Traditional currently offered Microsoft Consulting Services that focuses on technology based implementation and planning.
- Microsoft Services Enterprise Support that focuses on after sales services, health checks and technical support.

This engagement offering would allow Microsoft to provide better value added services to current and new clients. This approach enables better consolidated effort from Microsoft to ensure interest of the client is taken cared of from strategy, support and technology point of view.

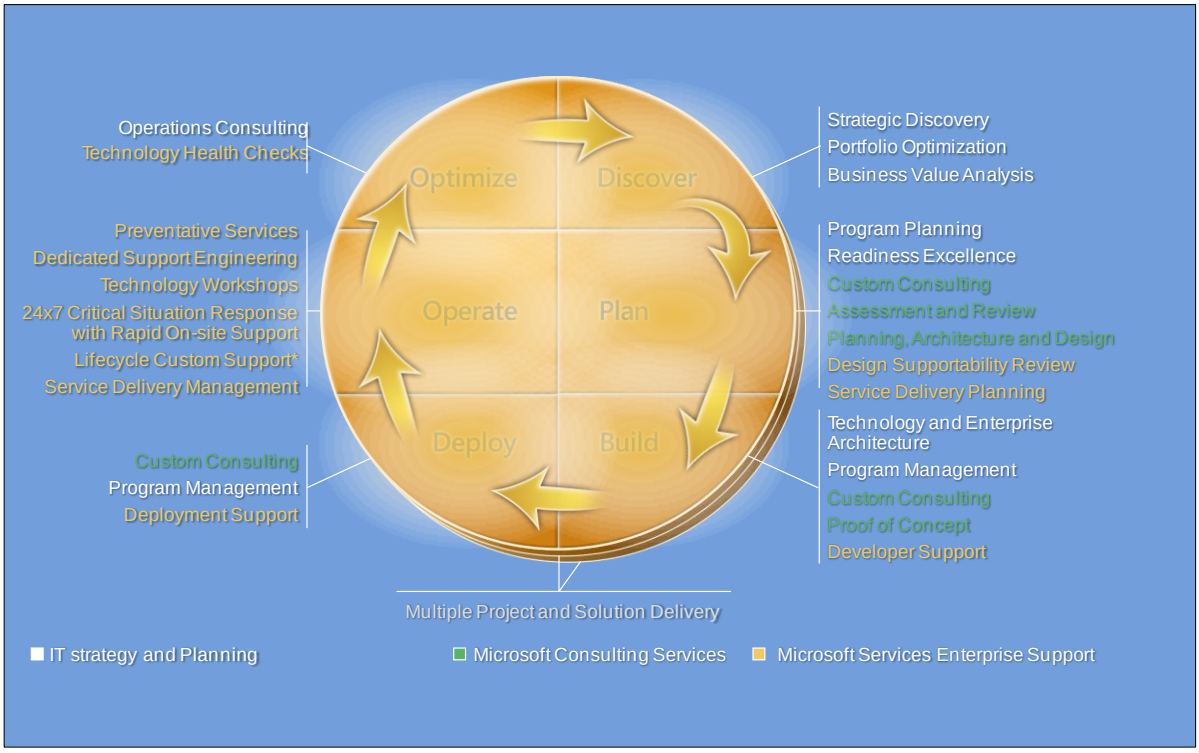


Figure 18 Service Delivery System of IT Strategy

In a nut shell, MCS management concluded that IT consulting services are advisory services that help clients assess different technology strategies and, in so doing, align their technology strategies with their business or process strategies. These services support a client organization's IT initiatives by providing strategic, architectural, and operational and implementation planning. Strategic planning includes advisory services that help clients assess their IT needs and formulate system implementation plans. Architecture planning includes advisory services that combine strategic plans with knowledge of emerging technologies to create the logical design of the system and the supporting infrastructure to meet customer requirements. Operational assessment/benchmarking include services that assess the operating efficiency and capacity of a client's IT environment. Implementation planning includes services aimed at advising clients on the rollout and testing of new solution deployments.

Hence, the "IT Strategy and Planning" engagement offering would be *part* of and not a separate standalone offering from Microsoft. Delivered using Microsoft Consulting Services, it is part of a holistic approach to address every part of the client's concern in a typical strategic planning, technology alignment to business and support.

The focus group also discussed about the most important aspect of the consulting delivery, namely people management. Consultants lie in the front end of customer service in MCS. Part of MCS strategy moving forward is to move the perception of the consultant from technology savvy to a trusted advisor to the client. Hence apart from deep Microsoft related technical competency skill set, the following knowledge should also be acquired:

- Knowledge on non Microsoft competitor products. As not all customers' environments are pure homogenous Microsoft products to enhance understanding and technical readiness.
- Industrial management soft skill such as PMP (Project Management Institute) (project management) or ITIL (ITIL) (IT service management).
- Apart from technical knowledge competency. Consultants should also be industry focused – Financial industry, Manufacturing, Healthcare and Government. These are essential industry verticals in Singapore and customers find it comfortable to engage consultants who are not only technical competent but truly understand the industry they are in.

Reorganize MCS organization structure to focus on client:

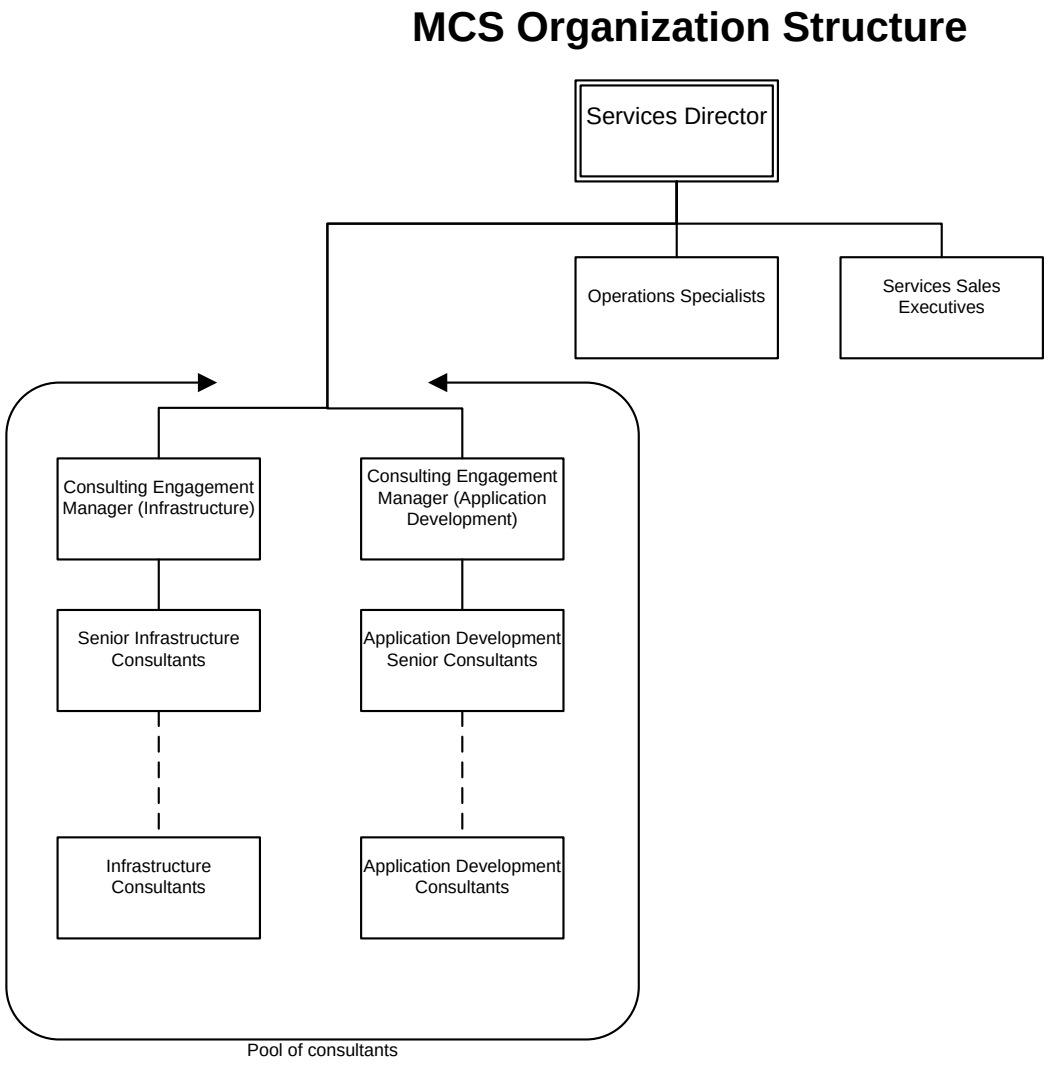


Figure 19 Proposed MCS Organization Structure

- Changes suggested to the organization structure:
    - Application development and infrastructure consultants are to be lead with 2 dedicated engagement managers.
    - These EMs will have separate and will be responsible for the profit/loss of each respective group. This places delivery, satisfaction and profitability responsibility to the EM.
    - Dedicated service sales executives to bring in sales to MCS instead of the EM. This releases the EM from sales responsibility and focus on engagement delivery satisfaction.

5.2 Service Blueprint

MCS is a consulting firm, its product are a mixture of (engagement delivery) finished goods and services (engagement and value added experience of its consultants). The degree of service components is higher in consulting than restaurants or hotels.

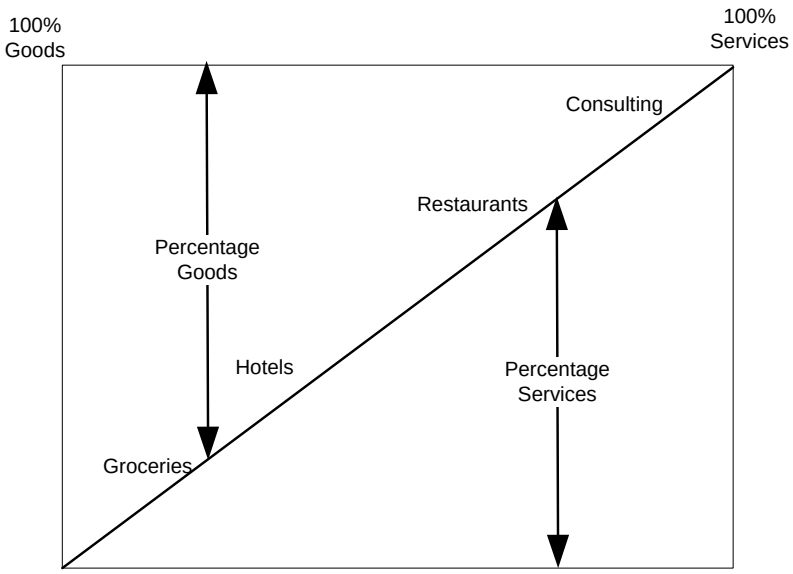


Figure 20 Goods and services components comparison

To ensure a holistic view of customer satisfaction and ensure timeliness of engagement delivery, MCS consulting delivery team through a focus group discussed and described a typical client's engagement delivery process not only from an engagement delivery view but also from a client management view as well. Also called order management cycle (OMC) evaluation as described by (Sharpiro, Rangan, & Sviokla, 1992), it is essential as every MCS client experience is determined by the company's OMC. An OMC evaluation would expose gaps, strengths and weaknesses in the engagement delivery system.

Using a service blueprint (Shostack, 1984), the focus group set about identifying in detail the following current process and gaps in a typical engagement delivery, a graphical overview

diagram is shown below (for larger view see section Supporting Diagrams – Service Blueprint (Current)) :

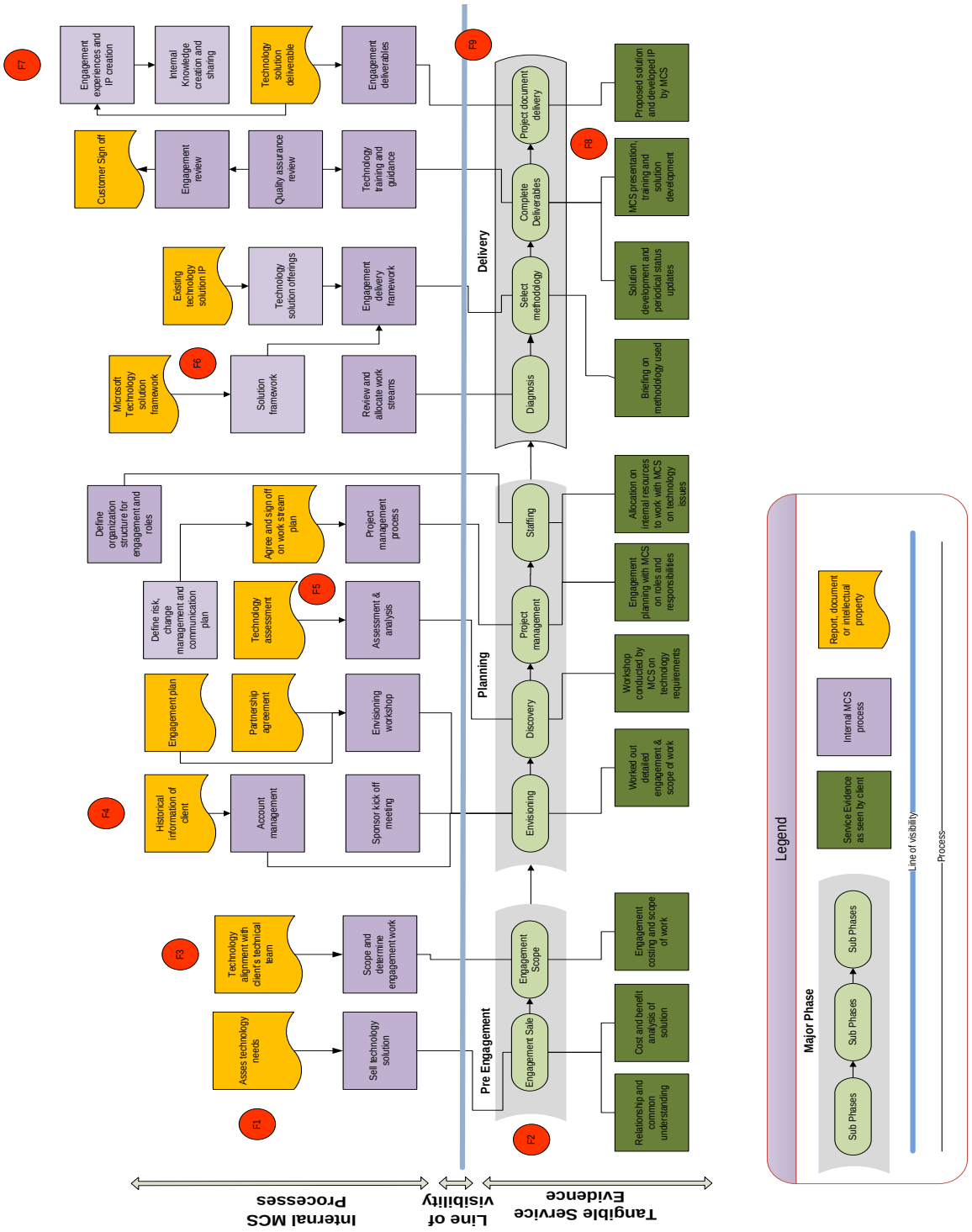


Figure 21 Current Service Blueprint

Listed below are the components of each process, interaction phase and service gaps:

Table 14 Service Blueprint for current MCS engagement process

Main process	Tangible service evidence	Interaction phase	Interaction between MCS	Report documentation	Service failure

Clients go though		**between MCS and Clients.**	**and backend MCS related operations**	**or intellectual property**	**points**
Pre Engagement	Relationship and common understanding	Engagement Sale	Sell technology solution	Asses technology needs	F1, F2
	Cost and benefit analysis of solution				
	Engagement costing and scope of work	Engagement Scope	Scope and determine engagement work	Technology alignment with client's technical team	F3
Planning	Worked out detailed engagement & scope of work	Envisioning	Sponsor kick off meeting		
			Account management	Historical information of client	F4
			Envisioning workshop	Partnership agreement, Engagement plan	
	Workshop conducted by MCS on technology requirements	Discovery	Assessment & analysis	Technology assessment	F5
	Engagement planning with MCS on roles and responsibilities	Project management Staffing	Project management process	Agree and sign off on work stream plan	
	Allocation on internal resources to work with MCS on technology		Define risk, change management and communication		

	issues		plan		
Delivery		Diagnose	Review and allocate work streams		F8
	Briefing on methodology used	Select methodology	Engagement delivery framework		
			Solution framework	Microsoft technology solution framework	
			Technology solution offerings	Existing technology solution IP	
	Solution development and periodical status updates. MCS presentation, training and solution development	Complete deliverables	Technology training and guidance		
			Quality assurance review		
			Engagement review	Customer sign off	
	Proposed solution and developed IP by MCS	Project document delivery	Engagement deliverables	Technology solution deliverable	F9
			Engagement experiences and IP creation		
			Internal knowledge creation and sharing		

In identifying the various processes, the focus group identified the following service gaps or failure points:

Table 15 Service Blueprint service failure points for current MCS engagement process

Service failure points	Service gap needs	Changes to tangible service evidence	Changes to interaction phase between MCS and Clients	Changes to internal processes	Additional reports, documents or intellectual property
F1	Engagement selling shouldn't about selling technology needs	IT strategy planning value proposition. Relationship and common understanding to be moved to Context assessment interaction phase Cost and benefit analysis of solution to be eliminated.		Sell technology solution to be eliminated and replaced by Selling IT strategy engagement. Qualify IT strategy engagement	Asses if client's needs are technology based instead of strategic. Asses long term engagement potential Build value Asses technology needs to be eliminated
					Asses long term engagement potential
					Build value model
F2	MCS should study the client's firm, industry the client is in and needs specific to	Relationship and common understanding	Context assessment	Internal research on client's industry	Market reports and competitive intelligence

	the client instead of solely on technology requirements				
					Initial assessment of client's needs
F3	Assessing only technology needs isn't adequate for strategic IT engagements.				Strategic alignment with client's management team.
F4	Historical information of the client should also include an influence map that indicates possible political influences within the client. Care is also needed to ensure all stakeholder's needs are taken cared for.			Situation analysis	Stakeholder analysis Influence mapping & expectation gathering
F5	Technology assessment must be guided with scenarios, strategic roadmap and prioritization of work streams		Project management to be replaced by Work stream plan	Scenario roadmap and priority of work streams	
F6	Methodology should include	Briefing on methodology			Project management

	industrial best practices of project management, technology management as well as Microsoft technology related solution framework	used to be eliminated. Instead MCS should work with clients to come out with methodology. As such Agreement on methodology engagement framework to be used instead.		framework. Operational management framework
F7	There is no process for strategic IT intellectual property creation process.			Strategic IT and solution deliverable Strategic IT lessons learnt.
F8		MCS presentation training and solution development to be eliminated. Instead MCS is to guide and add value via MCS presentation, mentoring and solution development.		
F9	There is no overall engagement management in place		Overall engagement management which includes. • Engagement realignment	

	• Internal engagement review, assessment and renewal • Value management • Situational analysis

Hence it is proposed that the new service blueprint should be drafted. Below is the newly defined service blueprint (for larger view see section Supporting Diagram – Service Blueprint (Proposed)):

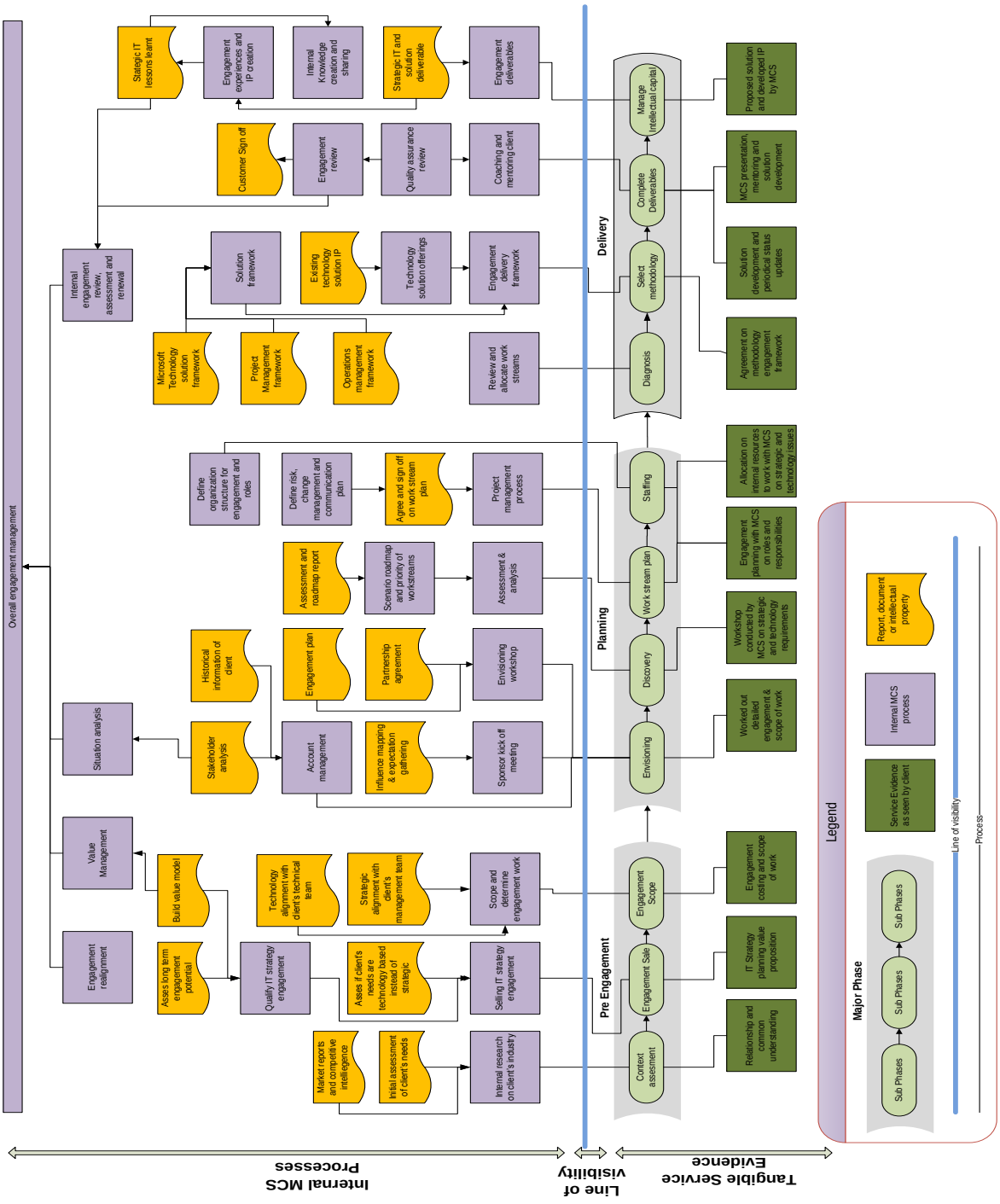


Figure 22 Proposed new Service Blueprint

In engagements where subcontracted vendors or partners are involved, MCS should involve them in every stage of decision making in the engagement. As with JIT II (Chase, Jacobs, & Aquilano, 2004), bringing in vendors or supplies to decision making can enhance customer focus, cost-effectiveness and ensure quality.

The identification of services failure points above highlights where MCS engagement delivery team should be aware in engaging clients during IT strategy engagements. Current

engagement practices address mainly engagement practices of selected or a range of Microsoft related technology and implementation services components. The shift to IT Strategy consulting demands that MCS pays close attention to matching expectation and performance of an engagement and the client's needs (Arthur, 1992), identified as a consulting firm, the most important thing is for the client and consulting team to work together to identify the client's need and develop a solutions. Hence the focus on customer is paramount to the success of the engagement. It should the centre of focus on all of MCS's service strategy, consultants and support systems. Structuring a consulting engagement would then require more upfront work in order to understand the depth and breadth of the client's needs. Depending on the needs, contact with clients can vary and the engagement deliverables can change in terms of depth and breath. As (Maister D. , 1993) has shown, different interaction needs with clients and depth of deliverable can vary and hence different approach is needed.

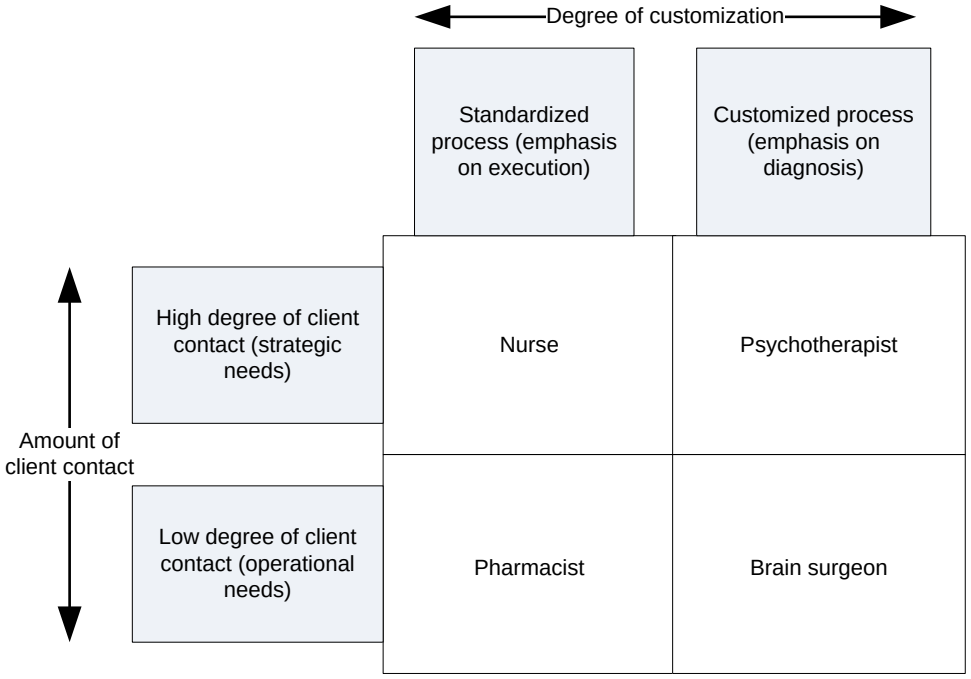


Figure 23 Types of consulting practices

Traditional MCS engagements normally fall with the quadrant of *pharmacist* and *brain surgeon*, where standardized offerings of specific technology would be recommended to replace current outdated platform. Moving forward in engaging and addressing senior management, a different approach is needed as the issues on higher level of the organization differs in depth, breath and risk. Hence the need to recognize the importance of MCS readiness for quadrant *nurse* and *psychotherapist,* as requirements here differs significantly from current engagement approach.

The level of contact versus the degree of customization as suggested by (Maister D. , 1993) addresses the nature of engagement approach according to interaction with client. However, MCS management need to also realise the following:

- The underlying motivation of clients approaching consultants to undertake engagements.
- The depth of the consulting firm should take in a particular project.

Every consulting work is basically business improvement initiatives. According to (Toppin & Czerniawska, 2005) these improvements are mainly concerned with three things:

- *Effectiveness*. Getting the desired result
- *Efficiency*. Getting it quickly.
- *Economy*. Getting it at reasonable rates.

According to (Toppin & Czerniawska, 2005) the level of consulting involvement and the motivation underpinning a project are interrelated and is depicted as shown below:

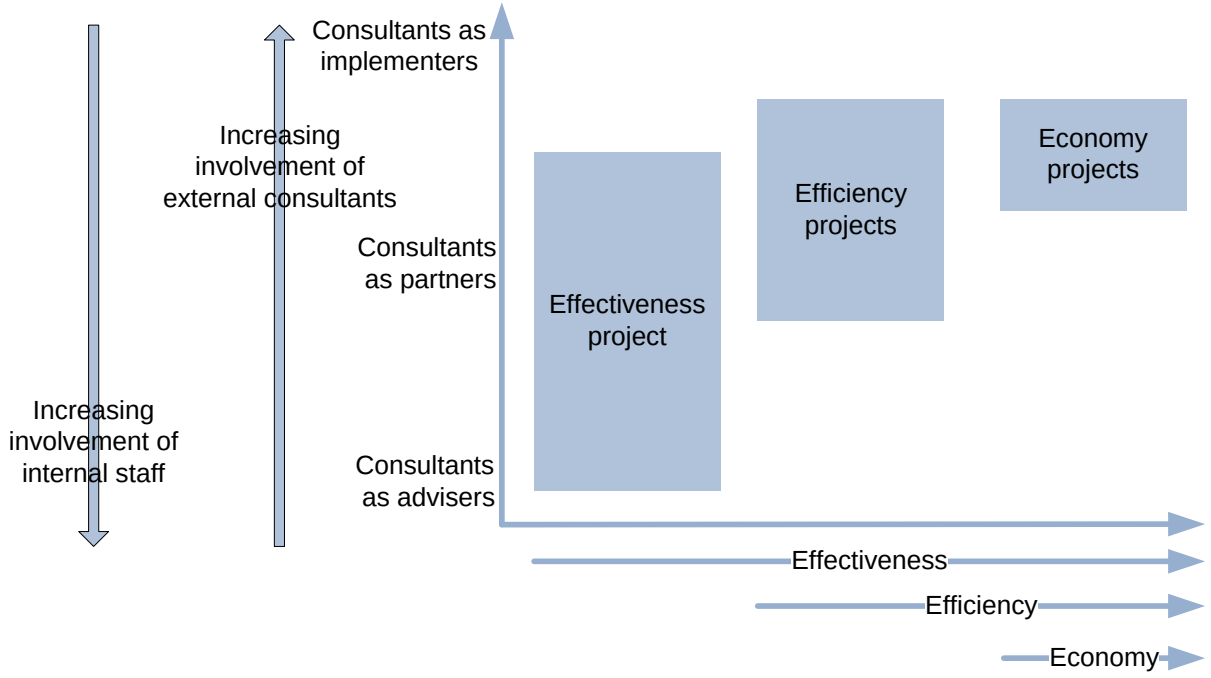


Figure 24 Mapping involvement of clients and consultants

With the above in mind, MCS management should understand that depending on the motivation (effectiveness, efficiency, economy) of the project, an approach to an engagement may be of implementer, partner or advisory role. Clients that are mature in strategic and technology management may seek consultants only during needs of either undertaking a non core value engagement (economy projects) or as advisors that works with internal staff on a strategic engagement (efficiency project).

Expanding the 3Es model to economic downturn, the focus of the client to the nature of the engagement may shift from effectiveness in good economic boom period to economy during economic downturns.

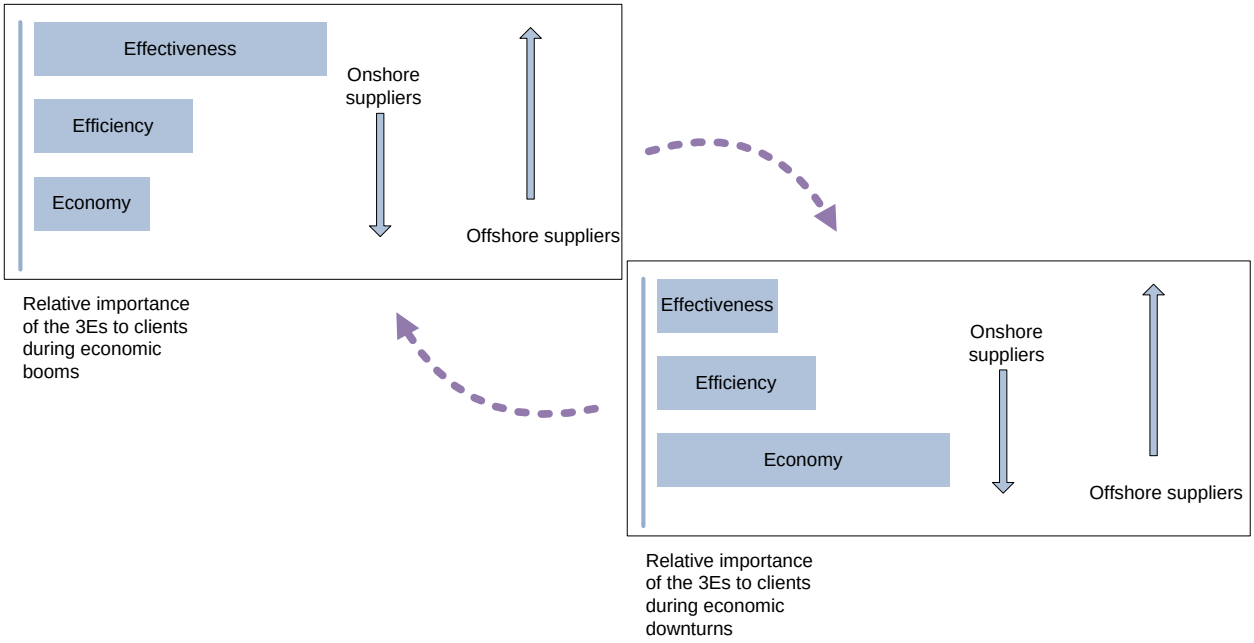


Figure 25 Importance of 3Es during economic cycles

All this represents a fundamental shift in engaging the client. To a client, a consultant is an agent of change (Quinn & Quinn, 2005) and even more so in strategic IT consulting. It is about giving trusted advice on transformation of a client current state to a higher state where change is realised. However, sometimes good consulting advice can sometimes fail to translate into organizational change. Implementation failures can be due to gaps in execution efficiency, lack of management support, resistance to change or lack of effective communication. This is especially true in corporate organization change. These are elements not clearly defined in any well written engagement service blueprint. One way of ensuring successful transformation can be through the use of intervention models (Cummings, 2005).

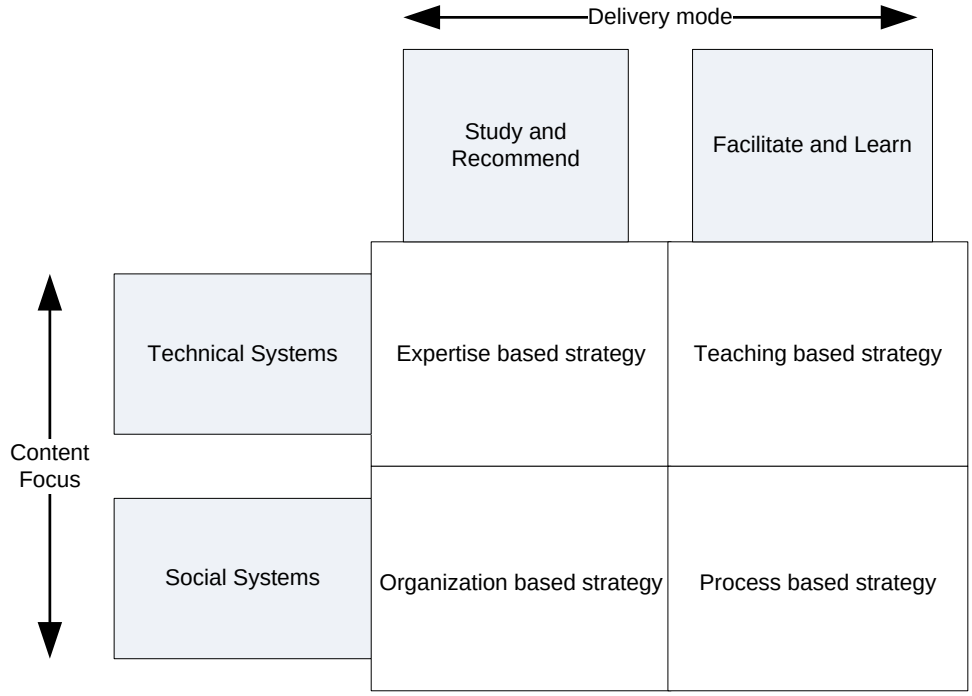


Figure 26 Intervention Model

Using the intervention model (Cummings, 2005), the above diagram shows that current engagements of MCS are normally in the quadrant of Expertise based strategy where MCS would study the client's environment based on technology needs of the client and recommend a specific Microsoft based product. However IT strategy engagement however often falls out of this quadrant. Such engagements can be of facilitation or social based (leadership, decision making, group dynamics, politics). Hence it is important that MCS engagement delivery team to be aware of intervention strategies and to be able to adapt to the client's environment.

Hence it is crucial that the engagement process is about understanding the client, the environment, meeting strategic requirements & expectations, managing a long term relationship while delivering value.

5.3 Knowledge creation

MCS consultants as part of internal corporate training are trained both in depth and breadth in Microsoft technologies for competency and technical mastery. Best practice engagement delivery document exists for a range of Microsoft related technology solutions and an internal community network of consultants linked via virtual intranet forums also enriches the MCS consultants on an ad hoc basis.

However in the aspect of IT strategy engagements, MCS currently do not have a process of creating knowledge or best practice engagement deliverables for such engagement undertakings. There are instances in the past where clients would request a short write up on certain technology management best practice based on industrial practice. In such cases, MCS consultants would normally rely on personal professional knowledge or currently obtained industrial experience. Depending on the size and complexity of such engagement requirements, MCS consultants rely mostly on past experience or via a common worldwide knowledge database.

If viewed from a supply chain and order fulfilment aspect, MCS undertakes such engagement and delivers a fashion that is depicted as engineer-to-order (ETO) approach, where knowledge creation for the solution is designed and developed on the receipt of an order. Often the design and solution development is very much based on the complexity and specific requirements of the client.

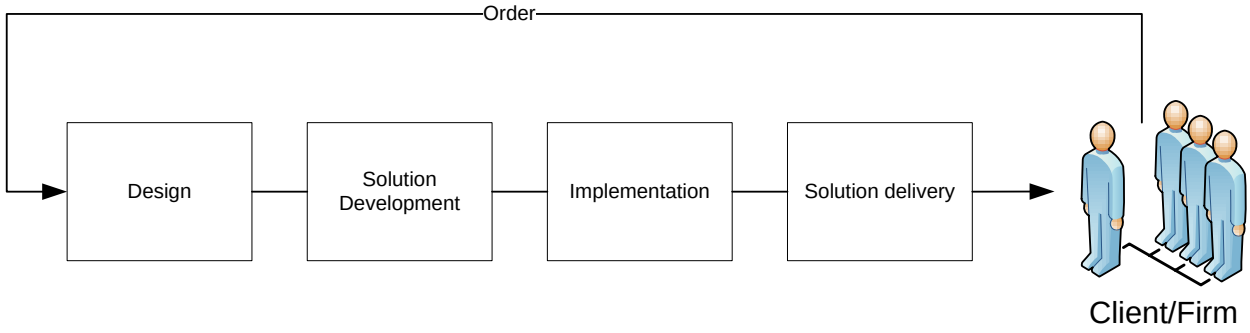


Figure 27 MCS current knowledge creation supply Chain (ETO)

A typical MCS consultant would need to undertake the following phases to create and deliver the engagement intellectual property to client:

Table 16 Current MCS Knowledge Creation

Engagement Phase	Phase description	Resources
Order	Understands the initial request and ensures readiness in terms of technology and industrial knowledge specific to the client's firm.	Local MCS engagement team past experience, internal resources and ad hoc network of global MCS peers on voluntary knowledge sharing.
Design	MCS consultants works together with client to understands the request and proposes solution in terms of document write up.	
Implementation	The solution may result in a project implementation of a documentation write-up of strategic in nature, implementation of a technology framework or	

	technical solution.
Solution delivery	Delivery and sign off of the IT strategic whitepaper or project implementation status. Normally this would be in the form of a whitepaper or project documentation.

This approach however has its drawbacks, the focus group commented that in terms of time and resources needed to create the intellectual property for the solution, this approach requires time, deep understanding of the client's business, analytical rigor and breath of industry knowledge for an MCS consultant to create the intellectual property needed for the client case study. Among current issues cited from the focus group are::

- Current gap in knowledge and intellectual property within the MCS knowledge database to support IT strategic engagements. This would result in increased time, effort and resources taken on the part of the MCS engagement.
- MCS engagement team may be unaware of similar engagement that was delivered elsewhere globally, thus not being able to leverage of similar developed intellectual property.
- With no guidance on IT strategic offerings, this would lead to inconsistent delivery experience to clients

Hence, a more flexible and agile proposed knowledge creation supply chain should be adopted. Sheffi (Sheffi, 2005) suggests a supply chain that needs to respond quickly to unpredictable customer demand but cannot afford large inventory would benefit from postponement based design. Effective supply chain (Hau, 2002) management is essential for organizations to gain competitive edge. It is essential for MCS to remain competitive amongst partners and competitors. IT is categorized as an innovative product as defined by the Fisher (Marshall, 1997) aspect of demand category where IT demand is unpredictable and product innovation and lifecycle is between 3 months and 1 year. IT consulting is also considered as an evolving supply and highly innovative product according to Hau Lee's (Hau, 2002)uncertainty framework.

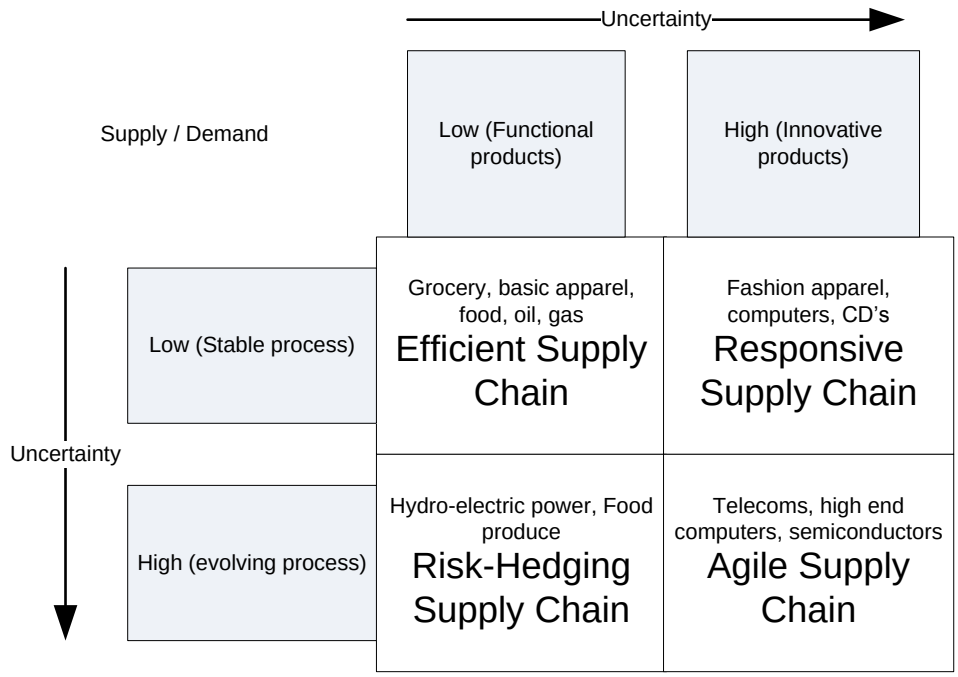


Figure 28 Hau L. Lee's Uncertainty framework

Hence in the case of MCS knowledge creation, the focus group suggested that the supply chain can be enhanced and adapted to improve in the following:

- Global MCS consulting fabricates a pre-defined deliverables with regards to specific industries, technology management frameworks, best practices, common technology specific solutions. The aim here is to minimize cost downstream of the supply chain, ensuring standardization of base delivery and ensuring global MCS consulting best practice.
- Regional MCS team can then further enhanced the offerings by bundling specific delivery and sales package into offerings that are pushed to regional countries. Certain localization due to language and legal requirements may occur. These solutions are then "pushed" when new products updates or solutions are released via global initiates to subsidiaries.
- Singapore MCS consulting would then use these pre-defined offerings that related and localized them to suite Singapore markets and industries. The solutions are developed together with local Singapore MCS, Sales and Marketing staff to ensure relevance.

Singapore MCS will then use and adapt these solutions to cut down engagement time and instead of spending time developing solution from scratch. These solutions are "pulled" and priorities here are customer satisfaction and standardized intellectual property reuse. This results in a more lean process and eliminates resource and time wastages as compared to the current process and at the same time focus on the following:

- Standardized engagement offerings to ensure customer satisfaction and consistent engagement delivery quality.
- Enhance delivery and precision of engagement focus
- Standardized intellectual property reuse.

Hence, the following phases are recommended:

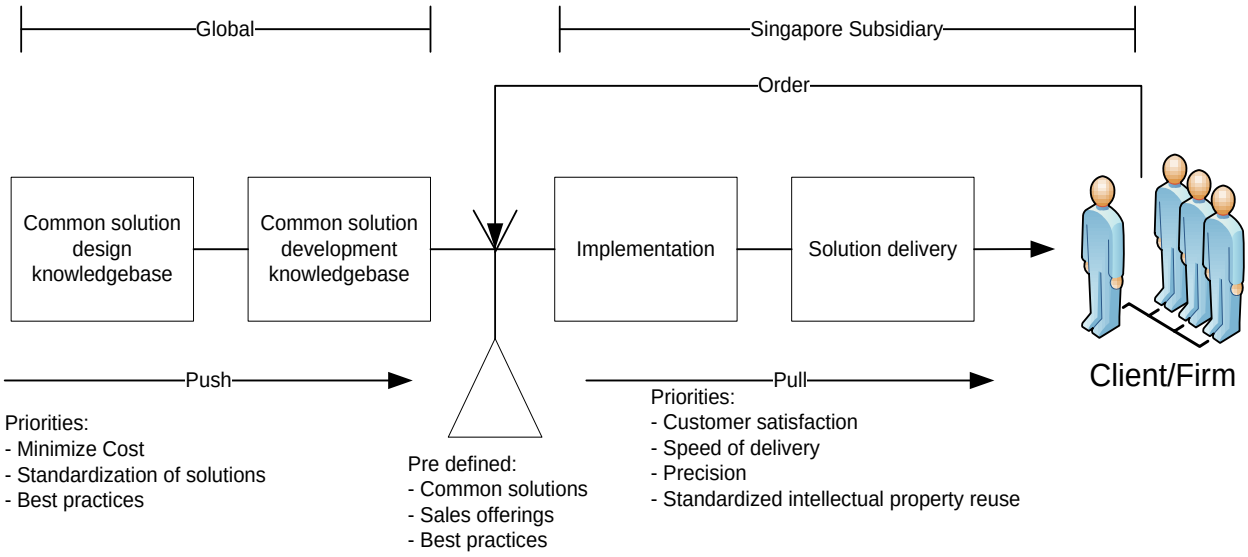


Figure 29 MCS proposed new supply chain for knowledge creation

Description of the phases above is depicted as below:

Table 17 Proposed MCS Knowledge Creation

Engagement Phase	Phase description	Resources
Common solution design knowledgebase	Storage of intellectual property related to IT strategy engagement delivery.	Global MCS
Common solution development knowledgebase	Global MCS will then create offerings that are standardized to be used globally, specialization of offering may occur due to language and localization in terms of legal requirements.	Global MCS and regional MCS team.
Implementation	Local Singapore MCS team will then use these regional offerings and make minor adjustments to suite the client's requirements	Singapore MCS team.
Solution delivery	MCS Engagement team for the client will use the localized offerings for use in engagement delivery to client and yet retains the base global delivery engagement standard	MCS Consultant for the client.

Generic technical and sales solution offerings in this way can be redeployed again to satisfy an unexpected demand in unexpected location not only in Singapore but any subsidiary worldwide.

Consulting remains a field where competition depends on how competing consulting firms differentiate themselves. Previously the quality of the firm's consultants was the deciding factor where clients used to differentiate between consulting firms. However moving toward the future, (Davenport & Prusak, 2005) argues that clients would judge consulting firms based on knowledge resources and has the best processes for creating and sharing knowledge. As such MCS need to recognise this as a crucial process that needs to undertaken to ensure MCS consultants delivering IT strategic engagements are not tasked with creating content from scratch.

5.4 Client satisfaction

Table below shows the demographics of the respondents. The data of "no of times MCS services were used in the past 5 years" were taken out from internal data. For full data, refer to section Primary data: Survey.

Table 18 Demographics of respondents

Variables		Frequency	% of total
Age	21 – 30 Yrs old	19	21
	31 – 40 Yrs old	32	35.6
	41 – 50 Yrs old	19	21
	>50 Yrs old	20	22
Position	Team Member Level	54	60
	Team Manager Level	18	20
	Executive Level	18	20
Department	Project Management	9	10
	Administration	27	30
	Audit	22.5	25
	Marketing	18	20
	CIO office	13.5	15
No of times MCS services been used in the past 5 years	0 – 5 times	27	30
	5 – 10 times	47.7	53
	> 10 times	17	17

As seen above the distribution shows that the highest respondents were from the age group of 31 – 40 yrs old. Team member respondents were predominantly team member level

(60%), which reflects the respondents are from systems administration background. This could also explain the high number of respondents that are from the administration department. Distribution data also shows that respondents has been mainly engaged or have at least used MCS services 5 – 10 times in the past 5 years.

An inter-item correlation analysis using Cronbach's α was done on all items. However less than satisfactory estimates were obtained from variables Responsiveness, Empathy and Satisfaction. Low Cronbach's alpha may be due to low response rates. In retesting the α, (J., 1979) recommends three basic methods to assess reliability of the measurement scale; test-retest, internal consistency and alternative forms. A retesting is not possible. Internal consistency reliability was used to re-measure by ways of splitting the scale on a random basis as retesting is not possible. Also known as half split, the alpha that were recalculated revealed a consistent higher than the minimal 0.7 that indicates high internal consistency reliability. The higher the Cronbach's α is to 1, the higher the internal consistency reliability.

Table 19 Cronbach Alpha

						Cronbach's Alpha	
	Dimensions	No if items	Mean	Min	Max	Full Servqual data	Half Split
Independent Variables	Assurance	4	5.8250	3	7	0.6842	0.8364
	Responsiveness	3	6.1296	5	7	0.4412	0.7922
	Reliability	9	5.9901	3	7	0.8630	0.9432
	Empathy	4	5.2750	3	7	0.3860	1.0762
	Process	8	6.1569	4	7	0.7905	0.9889
	Education	4	5.6528	3	7	0.6007	0.6966
Dependent Variables	Satisfaction	6	5.8685	3	7	0.0808	2.6113

In order to identify the naturally occurring dimensions of service quality all 32 independent items were placed into an exploratory principal components analysis. (Rosen & D.E, 1998)

recommended this as a means of identifying actual, rather than perceived, factor groupings. A principle component extraction with varimax rotation was applied.

The principal component analysis identified 8 components with Eigen values greater than one. An examination of the scree plot also indicated that 8 components was an appropriate solution. Only factors with eigen value equal to or greater than one were considered significant, and chosen for interpretation.

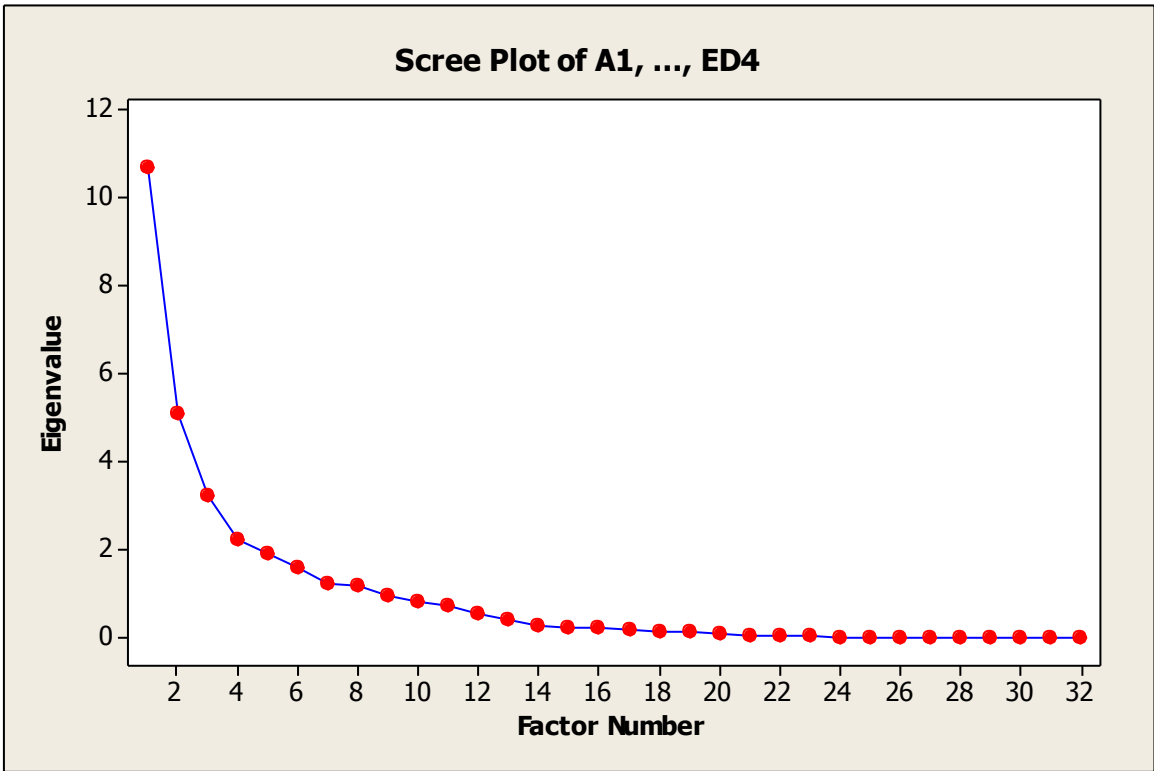


Figure 30Scree Plot

A variable with factor loading equals to or greater than 0.4 was considered significant and included in the analysis. The number of solutions were extracted from an iteration of 5 – 8 factor solutions. When these solutions were analyzed and examined, the following common points were found:

Table 20 Iteration of common points from 8 factors

Factor	Variables	Renamed dimensions
1	RE3 RE4 RE6 RE9 RE7 RE8 A1 P2	Reliable Competency
2	P1 P3 P4 P5 P6 P7	Clear Process
3	ED1 ED3 ED4 A3	Clear Guidance
4	RE5 RE1	Industry Focused Solutions

5	RS2 RS3	Responsive

The result of the factor analysis reveals that 5 factors emerged as dimensions of MCS Customer satisfaction. These 5 factors with 22 out of original 32 attributes explain 85.3% of total variance. These 5 new dimensions are now renamed as “Reliable Competency”, “Clear Process”, “Clear Guidance”, “Industry Focused Solution” and “Responsive” on the conceptual knowledge of MCS services operations. The indicator of variable ‘Reliability’, ‘Education’ and ‘Process’ are almost always clustered together to represent its concept correctly through different number of factor solutions. The other variables seem to suggest the need to be reduced for its uniformity of the concept they represent. The unclearness of other variables may result from the large number of their items and high tendency of the respondents. However this may cause the partial spoilage of the validity of MCS Consulting survey. Table below shows the attributes in order of newly identified dimensions:

Table 21 Rename Dimensions

				Correlation analysis across independent and dependent variable “Satisfaction”	
Attributes	**Dimension**	**Cronbach’s α**	**Factor loading communalities**	**Covariance**	**Correlation**
	Reliable Competency	0.9373		0.01	0.054
RE3			0.899		
RE4			0.958		
RE6			0.958		
RE7			0.906		
RE8			0.877		
RE9			0.950		
A1			0.845		
P2			0.593		
	Clear Process	0.8124		0.005	0.035
P1			0.807		
P3			0.897		

P4			0.928		
P5			0.936		
P6			0.806		
P7			0.893		
	Clear Guidance	0.7744		0.08	0.079
ED1			0.885		
ED3			0.884		
ED4			0.882		
A3			0.796		
	Industry focused solution	0.7071		0.112	0.211
RE5			0.895		
RE1			0.942		
	Responsive	0.6633		-0.018	-0.262
RS2			0.715		
RS3			0.774		

A correlation analysis was done between the new dimensions (independent variables) and dependent variable “Satisfaction”. It is observed that “Responsive” dimension yields a negative correlation with satisfaction dimension. This needs further research as it has always been assumed that responsiveness yields positive overall satisfaction perception. Dimensions such as “Reliable Competency”, “Clear Process’ and Clear Guidance” indicate positive correlation but correlation range of 0.054 to 0.079 is too small to justify relationship between the dimension and “satisfaction” dimension. The only strongly highest correlation number is 0.211 indicating a small positive correlation between “Industry Focused Solution” and “Satisfaction”. One explanation for this may be that MCS’s clients have always perceived MCS as delivering consulting engagements with the client’s industry in mind.

Using structured equation modelling, 6 models (4 of which was of initial hypothesis and 2 more were added after correlation analysis) using confirmatory factor analysis model were developed. Structured equation modelling was used to specify, estimate and evaluate

hypothesis model of relationship between dimensions (R & SM, 2006). Models developed to test the following hypothesis include:

Table 22 Hypothesis models

Model	Hypothesis
Model 1	• It is hypothesized that dimensions are correlated with each other. Hence it is assumed that a change in one dimension's variable would affect all other dimensions of service quality. • This model was suggested by MCS management as one possible way to explain that all service dimensions would affect one another giving an overall service quality perception to clients.
Model 2	• It is hypothesized that dimension factors loads onto a higher order factor called client satisfaction. • This model was suggested by MCS management that all the 5 service dimensions would collectively affect overall service quality perception.
Model 3	• It is hypothesized that all dimensions will directly affect the perceived service quality and clients would form the perceived service quality perception from all the attributes rather than the overall perceptions of the representative dimensions containing the attributes.
Model 4	• It is hypothesized that all service dimensions are not correlated to each other. This is based on the assumption that the service dimensions are consumed by clients as a separate process rather than a holistic overall experience.
Model 5	• As correlation was negative between responsive and average client satisfaction. The hypothesis was that the other dimensions were correlated with each other so that a change in one dimension will change and affect all other dimension of service quality.
Model 6	• As there dimensions Reliable competency, Clear guidance and clear process were almost clustered together from multiple factor solutions, the hypothesis was that these dimensions were correlated with each other to affect overall service quality.

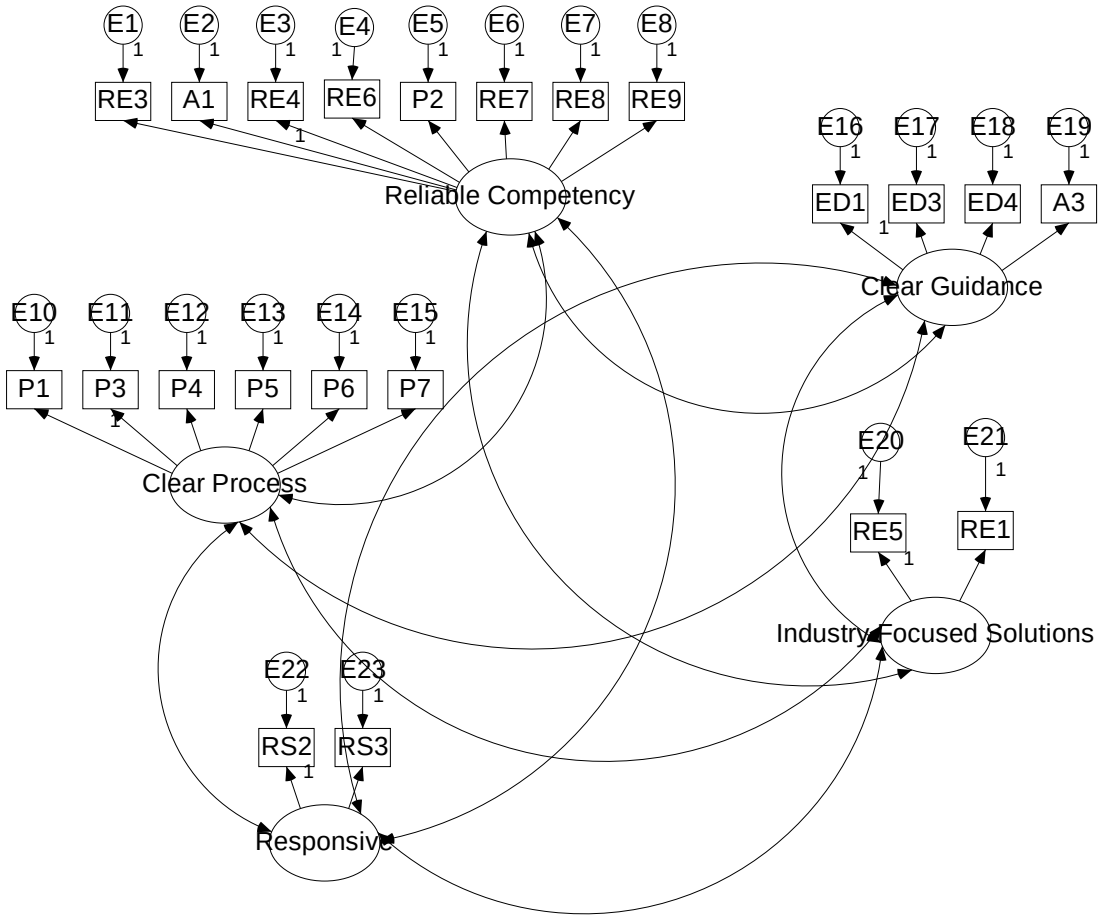


Figure 31 Model 1

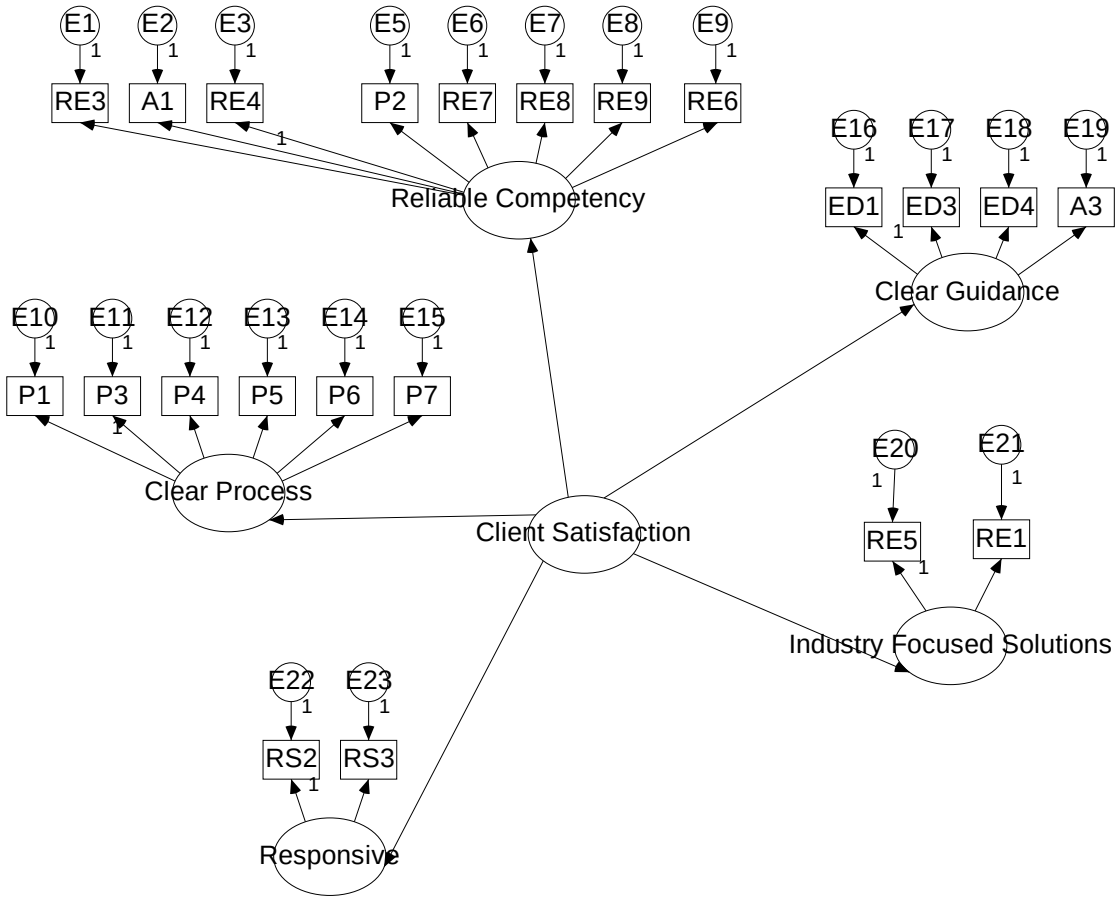


Figure 32 Model 2

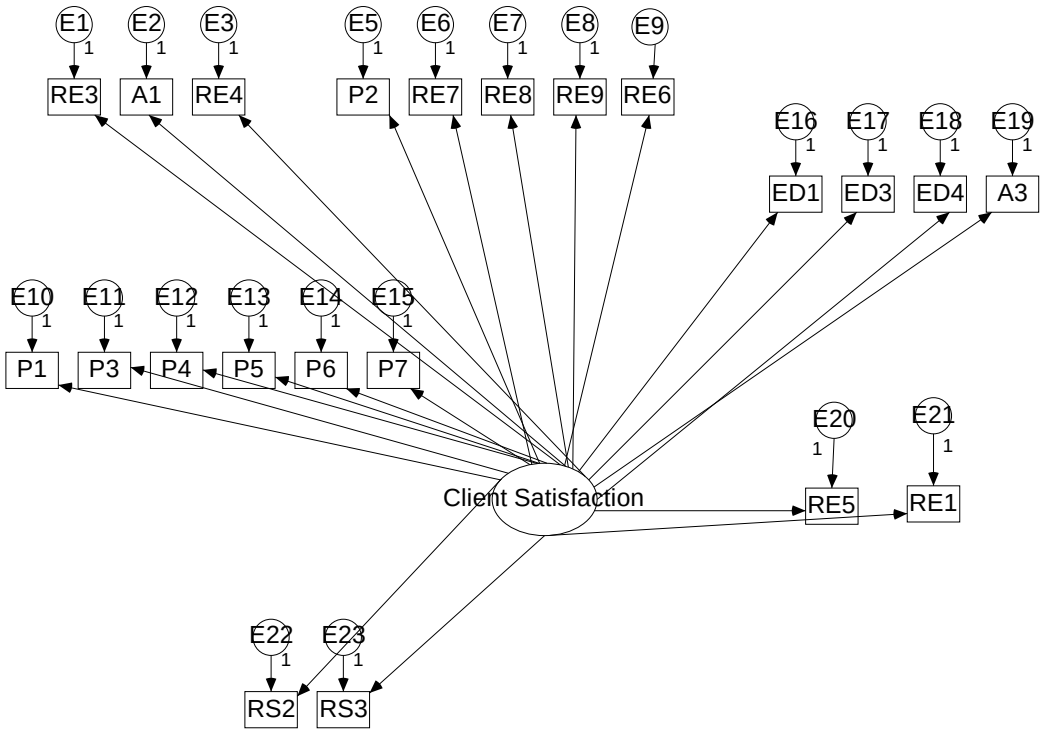


Figure 33 Model 3

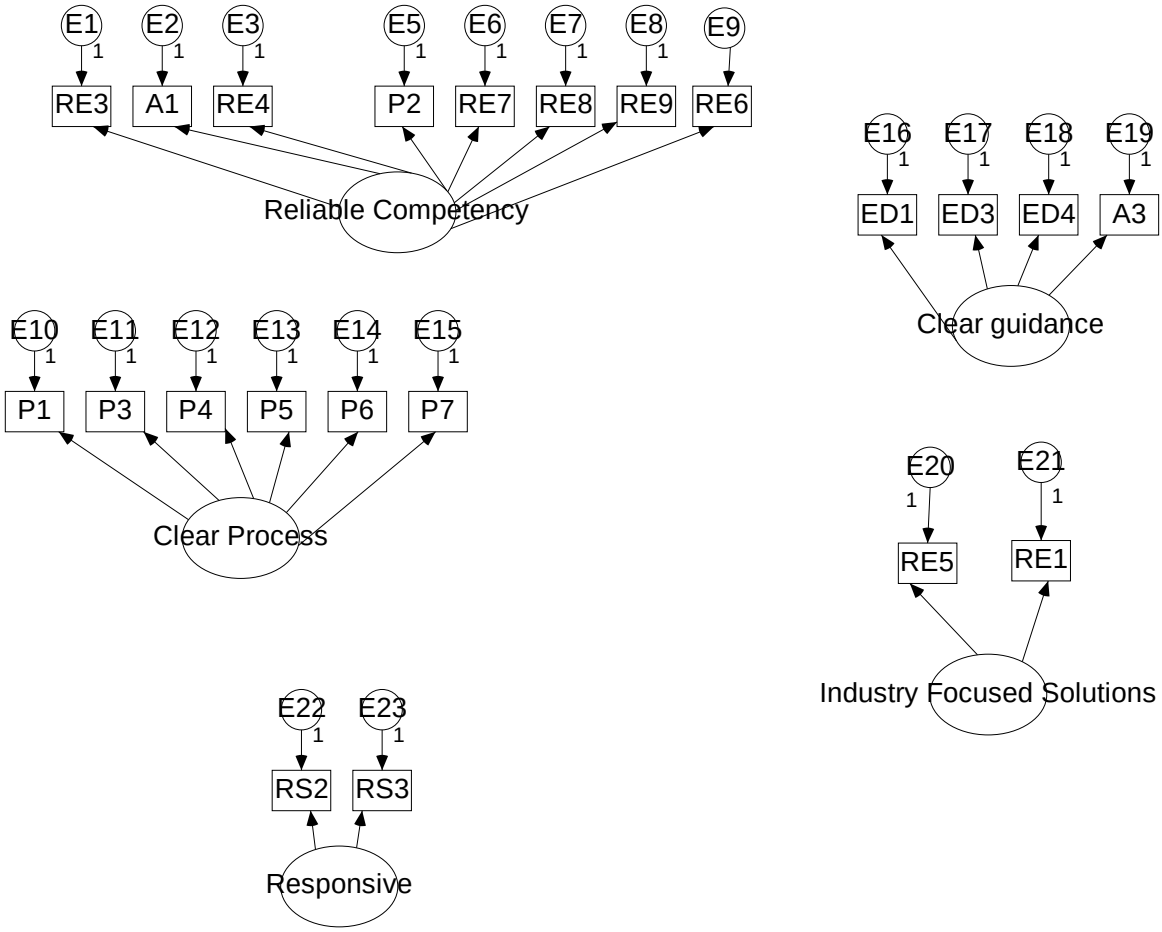


Figure 34 Model 4

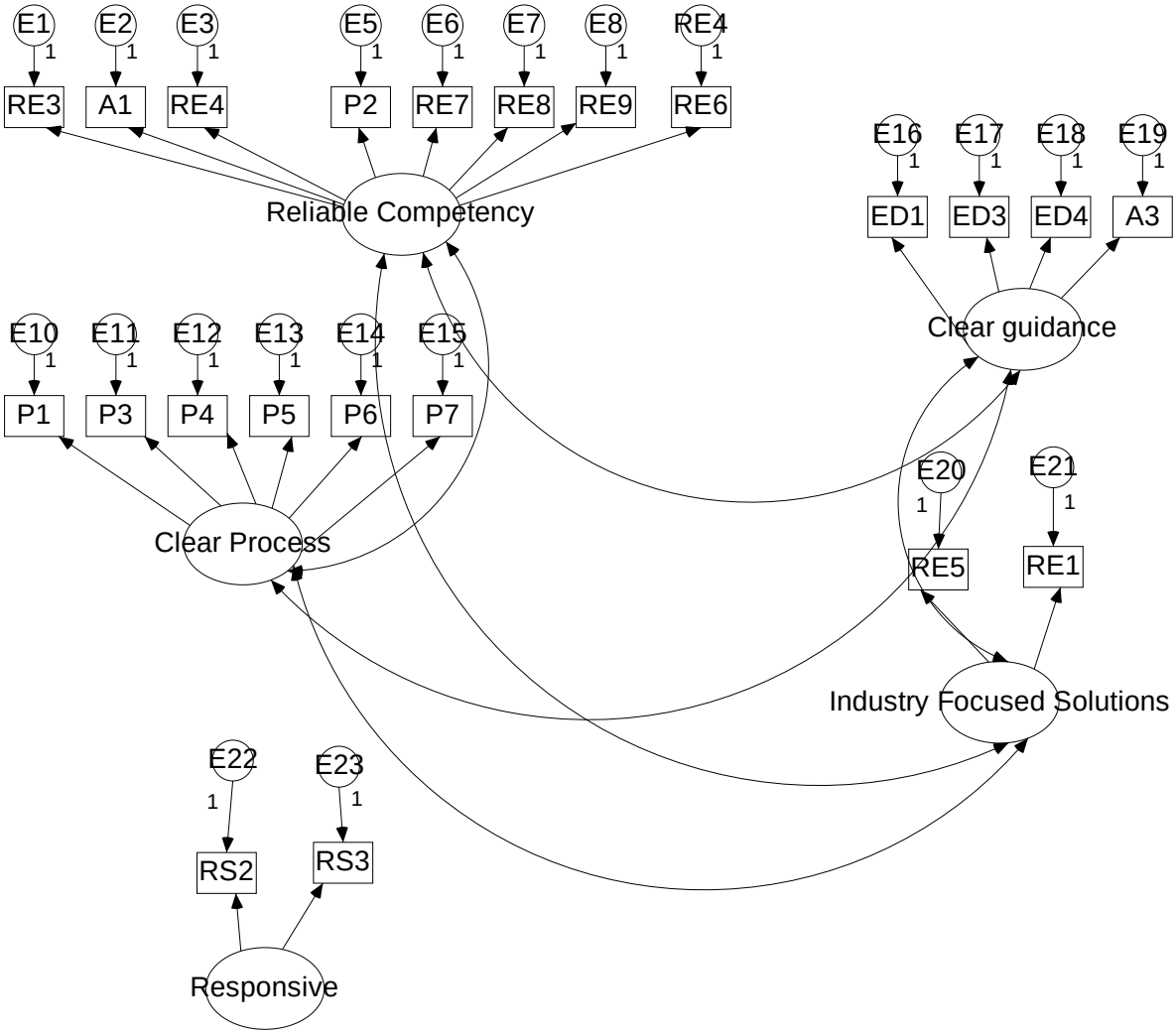


Figure 35 Model 5

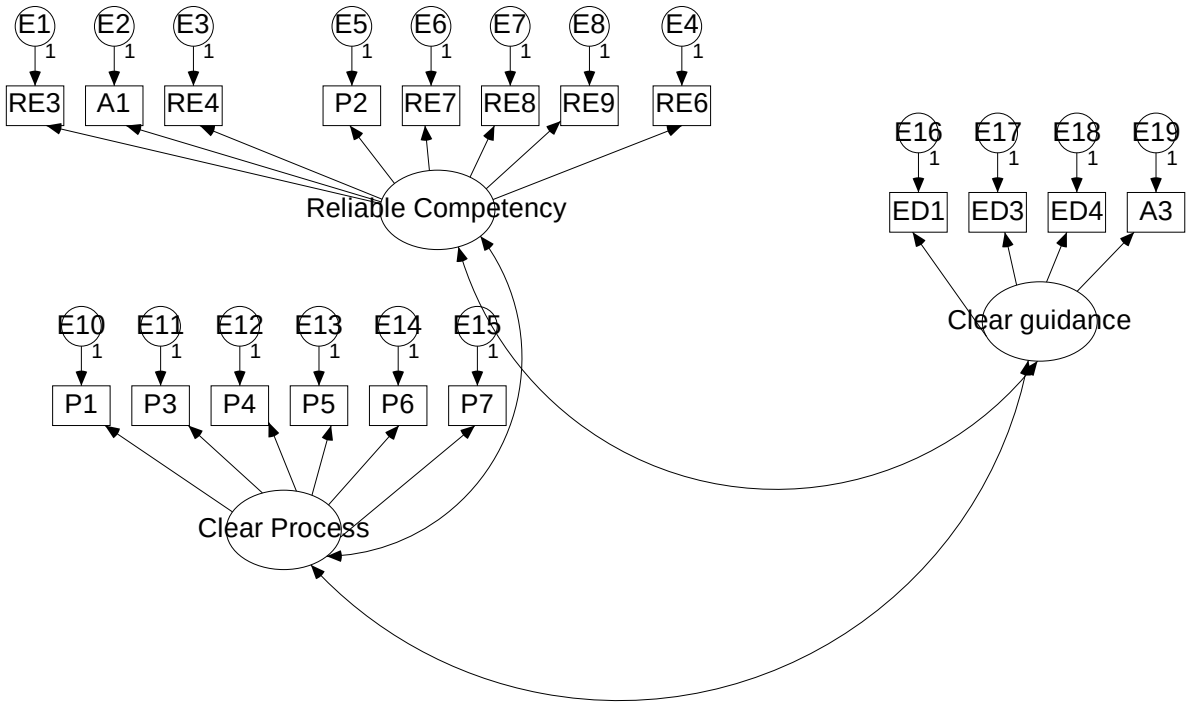


Figure 36 Model 6

The results of the analysis are below:

Table 23 Analysis of the hypothesis models

Model	DF (Degree of freedom)	P Value/Chi-Square	AGFI (Adjusted goodness of fix index)	CFI (Comparative Fit index)	RMSEA (Root Mean Square Error of Approximation)	AIC (Akaike information criterion)	RMR (Root Mean Square Residual)
Model 1	179	0	0.352	0.471	0.303	1745.091	0.12
Model 2	210	0	0.183	0	0.366	2771.895	0.194
Model 3	210	0	0.183	0	0.366	2758.104	0.194
Model 4	210	0	0.183	0	0.366	2758.104	0.194
Model 5	210	0	0.183	0	0.366	2758.104	0.194
Model 6	136	0	0.176	0	0.402	2130.891	0.194

Overall across all models, indices indicate weak levels of fit. Although Model 1 exhibits weak AGFI and CFI fit values, it rates the highest among all dimensions. Both CFI and AGFI levels are valued at 0.471 and 0.352 respectively. Although not close to the value 1 to indicate strong fit in AGFI and CFI. Model 1 also has the lowest AIC value amongst the other 3 models. It's RMR value is also the lowest amongst the models analyzed, this is favoured as smaller RMR value is preferable.

Models 2, 3, 4, 5 and 6 all exhibit almost similar values in RMSEA, CFI, AIC and RMR. RMSEA values for all models needs to be dismissed as it is greater than the 0.1 value limit (Browne & Cudeck, 1993). However the favoured Model 1 cannot be accepted judges solely on lowest AIC value alone.

Model 1 comes close to the hypothesis suggested by MCS management that all service dimensions would affect one another giving an overall service quality perception to clients. These dimensions would affect the overall service perception and are not consumed as separate process.

Weak fit into the models analysed via SEM may be due to the following factors:

- Respondents analysed have a large population of “team member” background. These respondents have little contact hours with MCS consultants and are project team members instead of being in a position of decision making, evaluating MCS engagements or management capacity. These are 60% of the respondents. Team manager and executive level respondents comprise of only 20% each. This is validated in the department survey that indicates most of the respondents are from Audit/administration office (collectively 55%) of respondents.
- This large population consists of respondents who have little experience in managing and overseeing consulting engagements. They comprise of administration staff that are team player and non decision making position. This can be a contributing factor of high tendency of the respondents.
- MCS currently do not have a strategic IT consulting service offering. As such it would be difficult for respondent to judge if how MCS consulting services would would perform.
- Low respondent rate of 90. (J.J. & T.M) found that most critiques raised against the use of SEM are of statistical assumptions and sample size needed.

(D.A., 2005) suggested that causal equations employed by structural equation models requires more time and research in order to build substantial models. Error rate can be high and thus contributes to low successful applications. (Robert & Brett, 2004) offers a more general discussion of difficulties with causal inference by purely statistical methods alone. SEM is frequently referred to as ‘causal modeling’, however without experimental design or strict assumptions, it is hard to know whether fitting a structural equation model actually yields valid causal effects (Holland, 1988) (Pearl, 1998). Perhaps an alternative to SEM would be a component-based approach called (Vincenzo, 2008) PLS (partial least squares) algorithm where it is feasible for very small samples.

6 CONCLUSION AND RECOMMENDATIONS

This chapter attempts to summarise the conclusions and recommendations made from analysis and observation done throughout this research. The overall research concludes that MCS management needs to realise the need to fundamentally change the way consulting services is to be structured and delivered.

6.1 Service Management

MCS clearly needs to move its mindset from subject matter experts to trusted advisory roles. Intervention strategies, relationships management with clients needs to be managed in a different way than what it used to be. The image of MCS needs to be changed in order to reflect the a more differentiated approach to client market by adding value in areas only MCS can offer such as engaging clients who has high Microsoft platform adoption and at the same time has issues that only MCS can address. Although significantly weaker market is projected this year with the economic downturn, predictions are bullish for Asia Pacific market outside of the US. As such MCS needs to take advantage of opportunity for market growth and anticipated opportunities in areas such as globalization, governance and specialization. MCS management realized that the client market do not perceive MCS as being strong in most areas of IT consulting from a capability mix point of view and this should be an area that should be closely monitored in order to ensure competitive edge since internal data shows that a constant 5% growth is expected year on year on strategic engagements.

Another area to look at is the organization structure and how consulting services sales work in MCS. MCS management realises that organization structure should be optimized in order to have more focused sales force to approach, manage and close consulting sales opportunities. Soft skills such as industry related knowledge, project management and service management are crucial to consultant development.

6.2 Service Blueprint

The introduction of the IT strategic engagements are not standalone delivery and should be delivered in parallel with other offerings such as support services and should include a holistic view of the IT architecture and not just strategic engagement approach only. However in order to delivery effectively and ensure lasting impact to clients, internal processes needs to be fine tuned from a services blueprint perspective. gaps and service short falls must be addressed and proper OMC evaluation should be done from time to time. Internal processes

and interactions with clients should be made flexible yet relevant in times of economic conditions as well as types of advisory services approach that should be taken. MCS should also provide service guarantees to a certain degree to ensure customer satisfaction. Service guarantees ensures customer centric focus to customers (Hart, 1998). Conditions of satisfaction should be built into the engagement to ensure that customer's expectation is fulfilled.

6.3 Intellectual Property

Intellectual property management processes should be optimized in order to realize the full potential of off shoring and localization to suit the Singapore market in order to be efficient and optimized in consulting delivery efforts.

6.4 Customer Satisfaction

However, further research is need in the area of assessing customer satisfaction. A more relevant approach should be undertaken to gauge perception of clients towards MCS offerings of strategic IT consulting engagements. A more accurate response rate might be to target a larger pool of respondents and those who are directly responsible for managing MCS consultants instead of IT administrators and auditors. Perhaps a more accurate result may be possible after MCS delivers IT strategic consulting engagements.

7 SAMPLE OF INVITATION LETTER FOR FOCUS GROUP DISCUSSION

1st October 2008
78, Mergui Road
#02-03, Clydes Residence
219054. Singapore.

Microsoft Singapore Pte Ltd
1 Marina Boulevard
#22-01 One Marina Boulevard
018989. Singapore.

Dear Sir/Madam

Re: Request for focus group participation

As part of my MBA degree with University of Nottingham, I am required to undertake a management project. The topic I will be covering is *"Examining the consulting services delivery at Microsoft Consulting Services (MCS) Singapore and recommendations for improvement."*

This management project objective is to examine the engagement processes for the consulting business unit of Microsoft Singapore Pte Ltd. MCS is currently looking for ways to move away from traditional consulting services to strategic IT consulting. MCS is seeking to engage the customer on a more business value added mindset than a "best in Microsoft technology" mentality.

This is an internal study for MCS Singapore. All content of this management project are confidential and will not be used for public publication.

The management project will look into areas such as the market climate MCS operates in, customer satisfaction and services delivery readiness. The study will attempt to examine, recommend measures that MCS can undertake internally to improve consulting services delivery and move MCS to strategic IT consulting.

Venue	Discussion Room no 22-01
Date	22nd October
Time	4.00 PM – 6.00 PM

In view of the above, I would greatly appreciate it if you could agree to share your views on the following issues in a focus group discussion.

Competency

- Perception of our customer's satisfaction of MCS engagement delivery.
- Perception of MCS level of technical competency and readiness of engaging customers in IT strategy type of engagements.
- Capacity or skill of MCS to understand customer business requirements and role in adding value to customer's competitive edge.

Operations

- Perception of MCS operational efficiency, gaps and improvement areas.
- Efficient use of managed and unmanaged intellectual property for the market segment MCS Singapore is targeting.

Strategy

- MCS unique proposition, differentiation and market strategy to customers.
- Perceived viable threat to MCS business from competing firms.

Your kind agreement to respond to the above discussion forum is very much appreciated. I look forward to meeting you in October 2008 to discuss the above matter.

Should you have any queries, please do not hesitate to contact me at +65-93882655 or alternatively by e-mail at lixwkc1@nottingham.ac.uk.

Yours sincerely

Chee Wah Keat (Gary)

8 SURVEY QUESTIONNAIRE SAMPLE

Assessment of the quality of MCS consulting delivery services

This survey is part of an MBA Dissertation, and is undertaken as an independent study to measure customer satisfaction with regards to the quality of consulting services undertaken by Microsoft Consulting Services (MCS) Singapore. Your organization has been identified for this survey based on consulting engagement delivery done in the past.

Do take 15 minutes to complete the survey and return the survey to the researcher. Your specific answers will the completely anonymous and individual responses will be treated in confidence, but your views, in combination with those of others are extremely important to this research.

Your details

Circle or write details as appropriate

Age

21 – 30 yrs 31 – 40 yrs 41 – 50 yrs 51 above

Position

Team Member Level Team Manager Level Executive Level

Department

Job Specification

Satisfaction feedback

Please use the following table to rank your responses:

Strongly Agree	*Agree*	*Somehow agree*	*Neutral*	*Somehow disagree*	*Disagree*	*Strongly disagree*
7	*6*	*5*	*4*	*3*	*2*	*1*

Please tick at the appropriate cell below

Assurance

Item		1	2	3	4	5	6	7
A1	MCS has the ability to meet project dateline							
A2	MCS is able to provide solution that takes into consideration my organization's problems, issues and requirements.							
A3	MCS is able to suggest products and technology that meets our business requirements							
A4	MCS is able to manage the quality of deliverables throughout the entire project							

Responsiveness

Item		1	2	3	4	5	6	7
RS1	MCS is able to lead my organization by suggesting the appropriate solution.							
RS2	MCS is willing to help when requested							
RS3	MCS responds well to request and feedback.							

Reliability

Item		1	2	3	4	5	6	7
RE1	MCS has sufficient knowledge about the industry my organization is in.							
RE2	MCS has sufficient knowledge about information technology that is aligned to my organization's needs							
RE3	MCS has excellent presentation skills.							
RE4	MCS is able to communicate and engage well with my organization's management, project manager and users							
RE5	MCS resolves problems and provides solution with business in mind.							
RE6	MCS secures confidential information well							

RE7	MCS treats each of my team member courteously and respect their opinion							
RE8	MCS maintains good relationship with our organization's management, project manager and users							
RE9	MCS provides sufficient trust to my organization.							

Empathy

Item		1	2	3	4	5	6	7
EM1	MCS understands my organization's vision, business goals and strategy							
EM2	MCS understands our organization's core business requirements							
EM3	MCS understands our organization's core system requirements							
EM4	MCS builds IT strategy based on alignment to our organization's strategy							

Process

Item		1	2	3	4	5	6	7
P1	MCS team are well organized with clear role assignment							
P2	MCS consultants sent for the project are chosen experts for the project							
P3	MCS establishes clear and specific project schedule/time plan							
P4	MCS takes an effort to clearly define in detail each consulting engagement scope.							
P5	MCS has best practices for benchmarking							
P6	MCS has change management in process to anticipate changes during engagement process.							
P7	MCS provides tests and validity							

	of solutions							
P8	MCS handles and mediate conflicts within projects effectively							

Education

Item		1	2	3	4	5	6	7
ED1	MCS provides guidance on project outline, scope and outcomes.							
ED2	MCS provides guidance on Microsoft technology							
ED3	MCS provides guidance on overall IT strategy							
ED4	MCS provides a vendor neutral perspective on solution and recommendation.							

Satisfaction

Item		1	2	3	4	5	6	7
S1	I am satisfied with the overall consulting services rendered from MCS.							
S2	I received the consulting services expected at the end of the engagement.							
S3	I will choose MCS for Microsoft technology related engagements in the future							
S4	I will choose MCS for IT strategy related engagements in the future							
S5	I would recommend MCS for IT strategy engagements to other organizations							
S6	I would recommend MCS for Microsoft technology related engagements to other organizations							

***Thank you** very much for your time and support in completing this questionnaire.*

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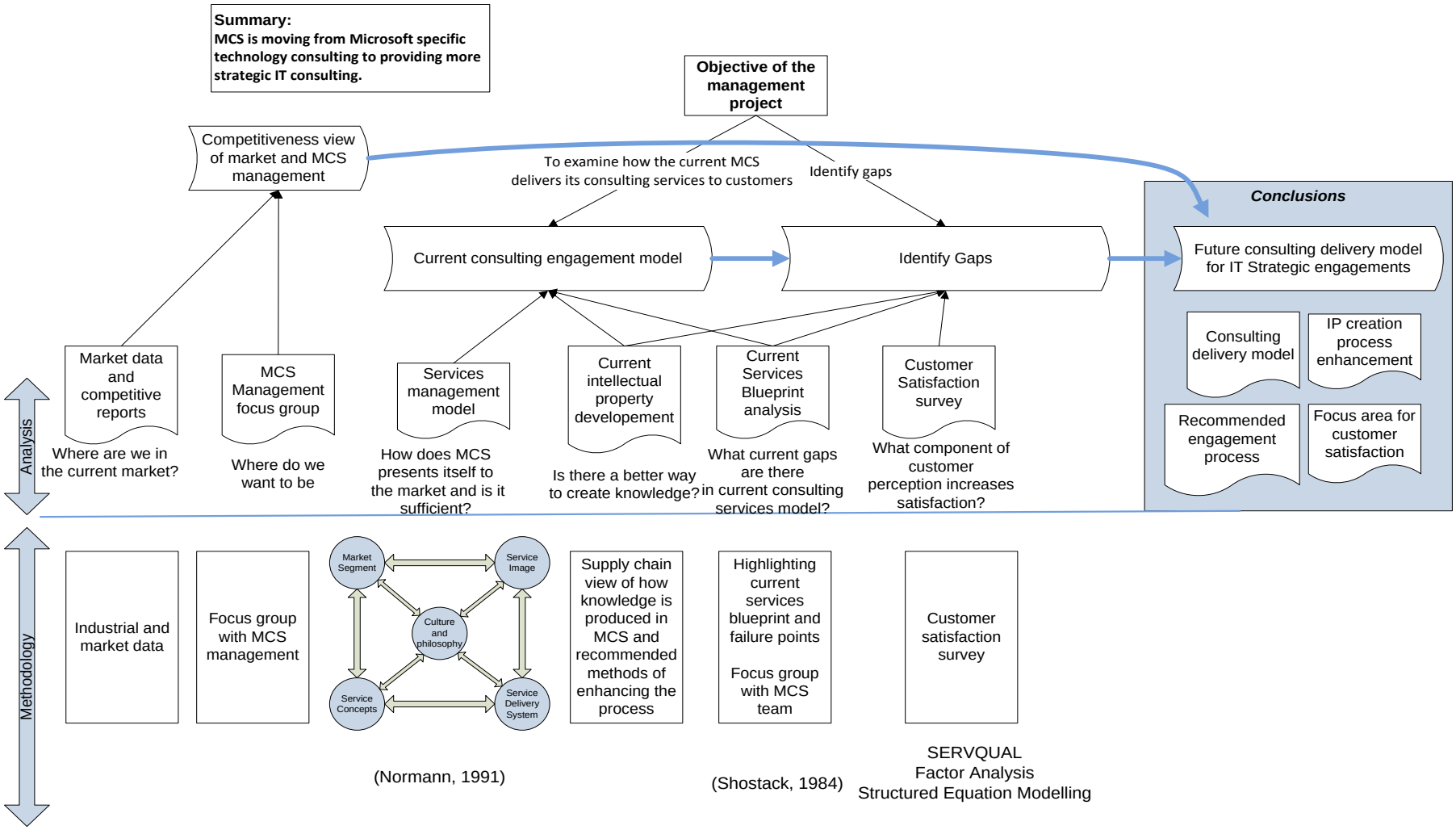
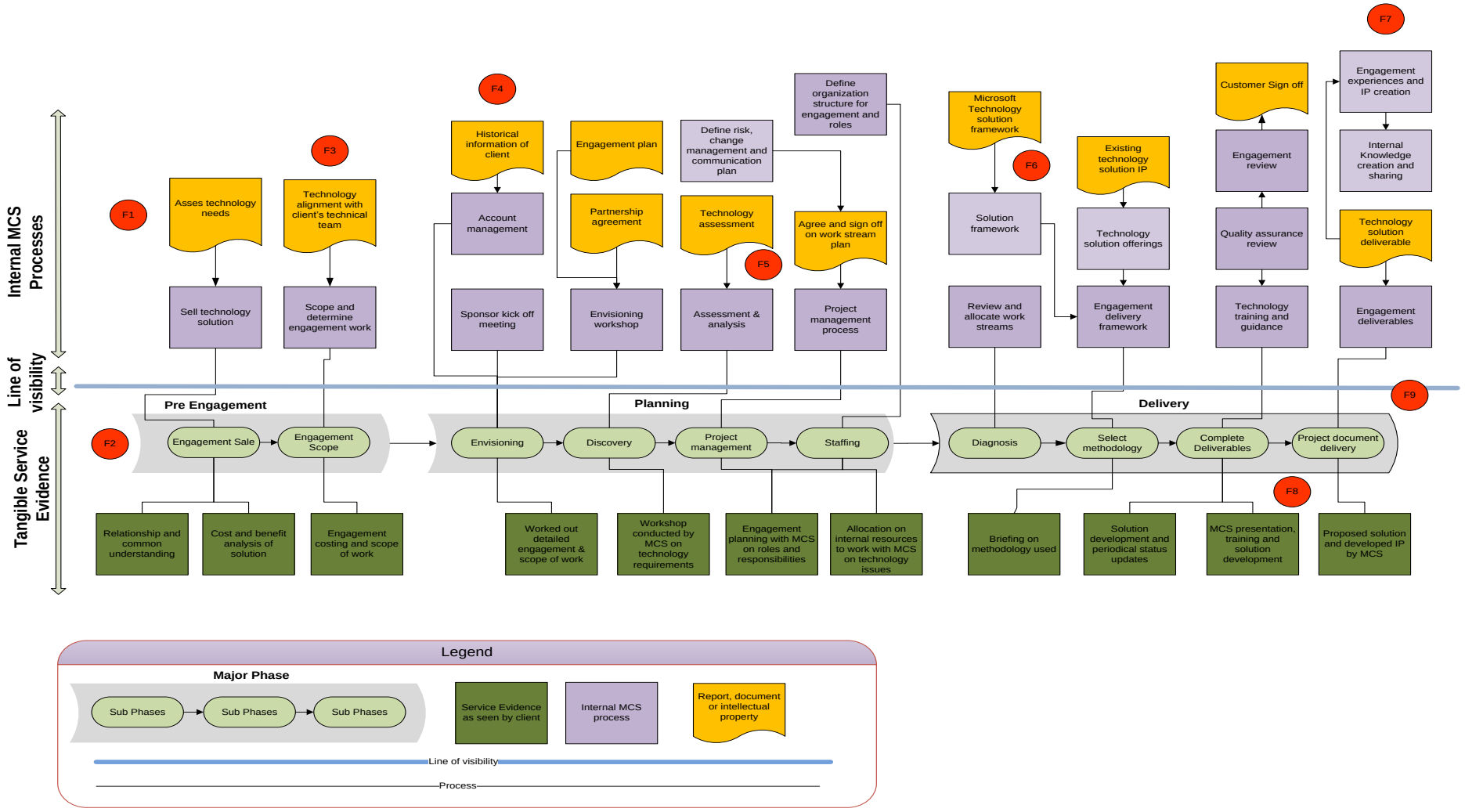
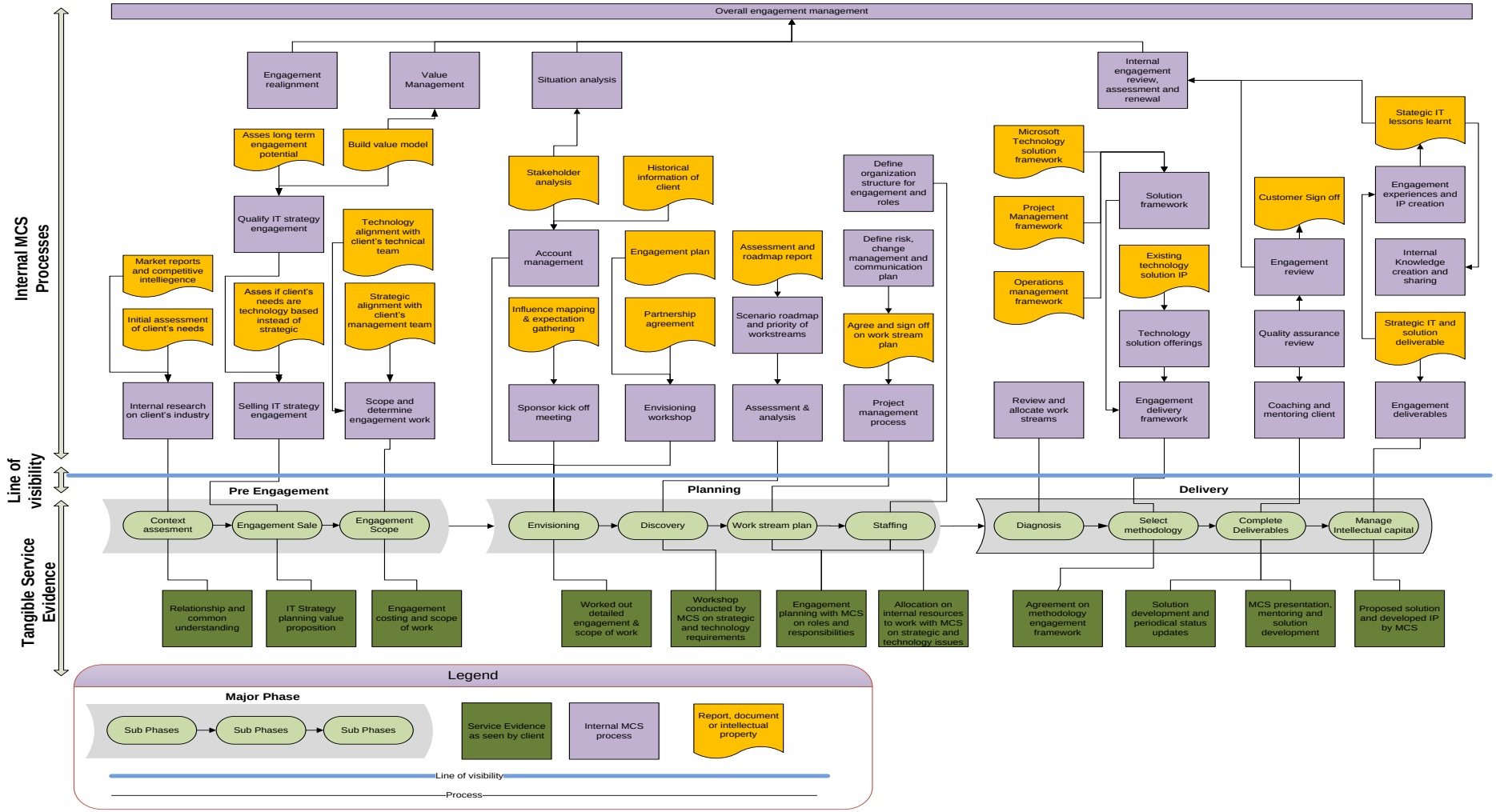
SUPPORTING DIAGRAMS – CONCEPTUAL FRAMEWORK



SUPPORTING DIAGRAMS – SERVICE BLUEPRINT (CURRENT)



SUPPORTING DIAGRAM – SERVICE BLUEPRINT (PROPOSED)



PRIMARY DATA: SURVEY

Note that data of “Age”, “Position”, Department and “No of times MCS services been used in the past 5 years” are omitted due to Microsoft internal confidentiality and compliance policy.

A1	A2	A3	A4	RS1	RS2	RS3	RE1	RE2	RE3	RE4	RE5	RE6	RE7	RE8	RE9	EM1	EM2	EM3	EM4	P1	P2	P3	P4	P5	P6	P7	P8	ED1	ED2	ED3	ED4	S1	S2	S3	S4	S5	S6	Average Satisfaction
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